# ANNUAL REPORT
# OF
# PROGRAM ACTIVITIES

## NATIONAL INSTITUTES OF HEALTH

## 1962

## CLINICAL CENTER

NATIONAL INSTITUTES OF HEALTH
PUBLIC HEALTH SERVICE
U. S DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

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PUBLIC HEALTH SERVICE

SUMMARY ANNUAL REPORT OF PROGRAM ACTIVITIES
CLINICAL CENTER

OFFICE OF THE DIRECTOR

CC-01
Serial No.

The administration of the Clinical Center is responsible for planning and providing all services (except physician care) required for the admission, diagnosis, and treatment of patients participating in the clinical research programs of the categorical Institutes.

In carrying out this responsibility for all aspects of patient care, the Office of the Director utilizes the skills of many specialties. These include diagnostic x-ray, pharmacy service, laboratory procedures, nursing and dietetic care, social service, medical records, chaplaincy service, rehabilitation, environmental sanitation, and radiation safety.

Optimum quality care is provided for research patients. This care is rendered with genuine warmth and all members of the hospital staff show a personal interest in each individual patient.

The complexities of modern medicine and the rapid advances in hospital practice have demanded continuing evaluation of all hospital departments and services. Each department involved in patient care has been able to fulfill its responsibility only through the conscientious efforts of staff members and the initiation and development of new methods and procedures to meet the changing and expanding needs of the clinical research programs of the Institutes. Several changes in the Clinical Center organization were required during the year in order to improve and extend supporting services for the clinical investigators. Most important of these was the establishment of two new Clinical Center departments.

Radiation Safety Department

The new Clinical Center Radiation Safety Department was formerly a section of the Plant Safety Branch, Office of Administrative Management, National Institutes of Health. It is responsible for all aspects of the proper usage, control, inspection, safeguard, and disposal of radioactive materials used in research at NIH. It is also the operating unit responsible for the recently established Clinical Center Low Level Counting Facility (whole-body gamma ray spectrometry for clinical investigation).

Many of this department's safety and control functions are concerned with the use of diagnostic and therapeutic radiology and radioactive materials in patient care activities, and practically all of the research service activities of the low level counting facility involve patient care. The new department's functions are closely allied with those of the Diagnostic X-ray Department and the Radiation Therapy Program of the National Cancer Institute. Thus its addition to the Clinical Center organization will facilitate coordination of these programs.

The supporting role of the new gamma ray spectrometry in collaborative studies with the clinical investigations of the several Institutes is comparable with other Clinical Center departmental services. The whole-body counter is the first instrument of its kind capable of recording separately the amount of radiation in 18 areas of the human body. Especially designed and constructed for the Clinical Center, the new instrument is able to detect the most minute amount of radiation material within the body and to determine its location with precision.

It is so sensitive that it can easily detect radiation emanating from an amount of isotope one-hundredth the size of the average diagnostic dose. Two or three minutes are required for the instrument to compute and record the total amount of radiation in the body. More detailed studies and analyses may take half an hour or more.

A comparison instrument, also a whole-body counter, can sort out and identify the particular radioactive isotope or isotopes present in the body. It is anticipated that these new instruments will permit the Institutes to conduct more accurate and detailed studies involving low levels of radiation.

Projected research applications of these instruments include blood and metabolic disorders and studies of the relative amount of radioactive iodine that enters the bodies of small children, how much remains, and how long it is retained.

Other projects planned include studies on the distribution of potassium in the body, and investigations of the effectiveness of types of radiation-shielding for sensitive instruments.

Environmental Sanitation Control Department

Professional hospital environmental sanitation is slowly becoming recognized as a crucial safeguard in the operation of a modern hospital. To acquire a high-level competency and to provide needed leadership in this new field, particularly at a time when infections are a matter of increasing anxiety, a Department of Environmental Sanitation Control was established in the Clinical Center in mid-year 1962.

This new department is responsible for providing environmental sanitation control for the patient care area and related areas; developing and applying sanitation programs to prevent the transfer of infectious or toxic agents;

devising, testing and applying improved methods, materials, and techniques to achieve a satisfactory level of hygiene of the total environment; setting comprehensive standards for cleanliness; performing housekeeping services involving the cleanliness, operations, and preservation of the Clinical Center facilities; and conducting special studies in environmental sanitation.

The special mission of the Clinical Center as a supporting service of the integrated laboratory-clinical investigation program of the categorical Institutes led to a design which located the laboratories and animal facilities in close proximity to the nursing units. This arrangement creates unique environmental control problems for patient care areas in the Clinical Center. It is anticipated that the new department will provide the necessary safeguards and assure a broad and vigorous program of environmental sanitation in Building 10.

Blood Bank

Developments in the clinical research programs during 1961 and early 1962 made it apparent that the Blood Bank Section of the Laboratory of Blood and Blood Products, DBS, should be more closely related administratively to patient care responsibilities. The Board of Scientific Counselors recommended that responsibility for the Blood Bank be transferred from DBS for two reasons: (1) Such responsibility placed DBS in the position of dealing commercially with organizations over which it exercises a regulatory function, and (2) DBS should devote more attention to the development of aspects of bloodbanking more pertinent to the Division's mission. In addition, it was agreed that the Blood Bank should seek accreditation from the American Association of Blood Banks, but this could not be accomplished while the local bank was a responsibility of DBS. It was also recognized that there was a need for better channels of communication between the Blood Bank and the clinical staff. Accordingly, the personnel, space, and resources of this activity, previously controlled by DBS, were transferred to the Clinical Pathology Department, CC, on April 1, 1962.

Since its establishment in 1954, the Blood Bank has experienced three separate phases of growth. During fiscal years 1954 through 1957 the workload increase paralleled the census toward the expected load of 4,000 to 5,000 transfusions per year at a 400-patient census. The operation was orderly, with collections made by the staff as needed, and only 10% of the blood supply was collected from outside sources. During the second phase, fiscal years 1958 through 1960, support for the NHI program on extracorporeal circulation was added to the planned output. A number of problems related to needs of this new program were solved, and this activity is presently a routine operation.

During the third phase of the Blood Bank's growth, fiscal years 1960 through 1962, emphasis was on the support of the platelet therapy project of NCI, which added 4,000 units of fresh blood to the workload and created some new problems to be solved. Another new and important development during this period resulted from a cooperative project with NCI

in evaluating methods for obtaining large amounts of leukocytes for therapeutic white cell transfusion.

In developmental research, the Blood Bank made several important modifications in the disposable plastic transfusion equipment which was developed by the staff for use in plasmapheresis.

During the past year, improvement in the communications between the Blood Bank staff and members of the patient care staff has led to dramatically increased collaboration in problems of clinical investigation.

In addition to its intramural activities, the Blood Bank has continued to hold a prominent national position in its field. In the Washington Metropolitan area, it serves as unofficial reference laboratory to most of the local blood banks because both laboratory assistance and expert medical advice can be given in the solution of difficult transfusion problems.

Normal Volunteers

Although the over-all number of normal volunteers participating in the Clinical Center's Normal Volunteer Patient Program decreased in 1962, the use of normal volunteers in the Out-Patient Department increased sharply. In 1961 three Institutes (NCI, NIAMD, NIMH) totaled 547 normal volunteer visits for a total of 767 hours. In contrast, only two Institutes (NIMH and NIAMD) were using normal volunteers on an out-patient basis during 1962. However, the total number of visits jumped to 1,675, an increase of 1,128, and the total number of hours jumped to 2,673, an increase of 1,906. The rise in the number of projects undertaken by NIMH accounts for this marked increase. It is of interest, also, that the increased number of OPD volunteers in 1962 came from fewer sponsoring agencies than in the preceding year.

Volunteers from the Federal Bureau of Prisons have continued to play an important role in studies of respiratory disease, the largest single disease problem of man. During 1962, 239 of these volunteers enabled NIAID investigators to study under carefully controlled conditions the action and interaction of viruses in the adult human. A large portion of this work has been in the development of new viral vaccines and attempts to improve old ones. Other studies have been concerned with the treatment of viral infections. These volunteers are helping investigators to get answers much more quickly than would be possible otherwise.

Patient Activities

The Clinical Center's program of organized patient activities is based upon the conviction that recreation is helpful in cultivating morale favorable to research, to treatment, and to the development of human capacities. During the calendar year 1962, remarkable progress was made in the development of a full-scale activity schedule. The patients' interest in and response to the over-all recreation program has grown with their realization of and education toward the value of such a program. Patients are responding

more and more to the various forms of active recreation, in contrast to their almost completely passive participation in earlier years.

In a comparative analysis of the monthly recreation statistics, the number of active patient participations has more than doubled, while the number of activities has tripled. Although the number of activities within the passive recreation program has remained constant, the number of patient participations has doubled. Another example of this program's expansion was the addition last spring of an outdoor recreation area for children and young adult patients. Equipped with appropriate playground and picnic facilities, this area is utilized in season for planned recreation programs as well as by individual patients during their leisure time.

Admission and Occupancy Data

During 1962 the 516 beds of the Clinical Center were used to their planned percentage of capacity for the fifth consecutive year. The average daily census was 398 and the average daily occupancy rate climbed to 77%. The total of 4,151 patients admitted during the year was an increase of 6% over 1961.

As we approach the tenth anniversary of the Clinical Center's operation, the total number of patients admitted nears the 30,000 mark. The average length of stay in 1962 was 34 days. This represents a reduction compared to the 37-day-average experienced in the two preceding years, and a further reduction is anticipated in the future. However, the total number of admissions has increased, as has the number of followup visits. There was also an increase in the number of acutely ill patients. The combination of these factors throughout the year resulted in a much greater volume of diagnostic and therapeutic services, more nursing care, and more issuances from the Pharmacy.

Practicing physicians made referrals at a higher level than in any previous year. This is attributed to improved planning and coordination of research projects and to the continuing information program. The mailing list of physicians who have indicated an interest in receiving the brochure "Current Clinical Studies and Patient Referral Procedures" has increased to 10,917. As a supplement to this publication, which is revised twice yearly, information about the varying needs of the programs of clinical investigation is published in medical journals and professional newsletters, and in the lay press.

The geographic distribution of Clinical Center patients in 1962 included every state in the Union except Utah and Wyoming. However, to facilitate the long-term followup treatments and observations so essential to many of the research studies, 45% of the patients admitted during the year were from Maryland, Virginia, and the District of Columbia.

Medical Board

The Medical Board continued its regularly scheduled monthly meetings during the year. The function of the Board is to provide advisory assistance to

the Director of NIH and the Director of the Clinical Center on the maintenance of the highest possible medical standards of patient care and on other matters affecting the clinical environment at NIH.

In 1962 the Medical Board had a new chairman and four new members. A number of changes were also made in appointments to the Board's various committees.

The Clinical Research Committee was active throughout the year, principally because of the increased number of projects initiated which involved the use of normal volunteers.

At the request of the Office of the Director, NIH, in mid-1962 the Clinical Research Committee and the Medical Board supplied the same type of review for off-site research projects utilizing normal volunteers that has always been given to such studies undertaken at the Clinical Center. Although it is too early to predict the full impact of this program, the first six months' experience was quite satisfactory.

The following two amendments were added to the Organization and By-Laws of the Medical Board:

Amendment No. 19., Revision of Artical III, Section 2, "Membership and Appointments of the Medical Staff, Method and Terms of Appointments," to define the method of approval of patient care responsibilities for physicians not licensed in one of the states.

Amendment No. 20., Revision of Article V, Section 6, C, paragraph No. 6, Clinical Research Committee, previously revised by Amendment No. 10, to describe procedure upon change of the senior investigator of a research project.

## Medical Care Consultants

There were 749 visits by medical care consultants to the Clinical Center during the calendar year 1962. Eight medical care consultants were added to the roster, bringing the total number to 157 at the end of the year. There is general agreement that the consultant program as a whole has functioned well.

## Information and Public Relations

The Information Office of the Clinical Center is responsible for all public information releases concerning the medical care and clinical research activities of the Clinical Center. This office also assists science writers, reporters, magazine editors, and radio and television authors in the preparation of material for release to the general public. Examples

of some of the items that appeared in the lay press this year are:

"Drug Against a Virus," Time Magazine, Vol. LXXIX, No. 7, pages 58-59, February 16, 1962.

"BVSers Serve," Gospel Messenger, pages 19-22, April 14, 1962.

"Clinical Crossroads at Bethesda," Modern Medicine, Vol. 30, No. 8; pages 9-22, April 16, 1962.

"Volunteers for Better Health," The Sunday Star Magazine, pages 6-7, May 13, 1962.

"Mother of Doomed Son Volunteers to Reveal Her Reactions to Tragedy," Washington Post, February 19, 1962.

Cooperation with TV producers resulted in the appearance of the Associate Director of the Clinical Center on the NBC-TV morning news feature, "Inga's Angle," October 29, to explain the CC's patient care program.

Several sequences of the NBC-TV documentary on the Religious Society of Friends, "The Gentle Persuaders," telecast July 30, were filmed at the Clinical Center. The scenes featured a young Quaker girl serving in the CC's normal volunteer program.

Both of these programs stimulated a number of requests for further information about the National Institutes of Health and the Clinical Center.

Another aspect of the work of the Information Office is its public relations responsibilities in connection with the patient care program, which includes protecting the patients' right to privacy. During 1962 there were several celebrities among the patient population who relied on the services of the information staff to prevent undesirable publicity.

Exhibits

"Selected Clinical Studies of the National Institutes of Health," manned by CC Information staff, was shown at the following medical meetings:

Maryland Medical and Chirurgical Faculty, Baltimore, Md., April 4-6, 1962.

American College of Physicians, Philadelphia, Pa., April 9-13, 1962.

Virginia Academy of General Practice, Roanoke, Va., May 10-13, 1962.

American Medical Association, Chicago, Ill., June 24-28, 1962.

"Current Clinical Research at the National Institutes of Health," completed in October, was shown at:

Second Interstate Scientific Assembly (Medical Societies of D. C. and Virginia), Sheraton-Park Hotel, Washington, D.C., October 15-17, 1962.

Clinical Center lobby on several occasions at the request of groups of professional visitors, including the Association of Military Surgeons of the U. S., November 15, 1962.

Scheduled for numerous medical meetings during the coming year.

"A Look at the Development of a New Drug," CC Pharmacy Department, was on display for:

Joint Meeting of the American Association of Hospital Pharmacists and the American Pharmacy Association, Las Vegas, New Mexico, March 25-30, 1962.

Association of Military Surgeons of the U. S., Clinical Center, November 15, 1962.

CC lobby on several occasions at the request of visiting groups.

"Plaster Casts and Splints in the Care of Patients with Rheumatoid Arthritis," prepared by the CC Rehabilitation Department in cooperation with the National Institute of Arthritis and Metabolic Diseases, was displayed at:

Congress of Physical Medicine and Rehabilitation, New York City, August 28-31, 1962.

Southern Medical Association, Miami, Florida, November 12-15, 1962.

Contributions to the Professional Literature

The Editorial Board of the Clinical Center reviewed the following contributions to the professional literature published in 1962, and the CC Information Officer provided editorial assistance to members of the staff as needed in the preparation of this material:

Combined Clinical Staff Conferences of the Clinical Center for The Annals of Internal Medicine:

"Biochemical Abnormalities in Hereditary Diseases," Vol. 57, No. 3: 472-497, September 1962.

"Central Core Disease: A Myofibrillary and Mitochondrial Abnormality of Muscle," Vol. 56, No. 3: 511-520, March 1962.

"The Metabolism of the Catecholamines (Clinical Implications)," Vol. 56, No. 6: 960-987, June 1962.

"The Syndrome of Sarcoidosis, Psoriasis, and Gout," Vol. 57, No. 6: 1018-1040, December 1962.

Other publications:

"Protection by Digitalization Against the Negative Inotropic Effect of Halothane in Dogs," by A. H. Goldberg, H. M. Maling, and T. E. Gaffney. Anesthesiology, Vol 23: 150-151, January - February 1962.

"The Value of Prophylactic Digitalization in Halothane Anesthesia," by A. H. Goldberg, H. M. Maling, and T. E. Gaffney. Anesthesiology, Vol. 23: 207-212, March - April 1962.

"Size Distribution of Erythrocytes," by G. Brecher, E. F. Jakobek, H. A. Schneiderman, G. Z. Williams, and P. J. Schmidt. Annals of the New York Academy of Science, Vol. 99: 242-261, June 1962.

"Measurement of the True Chloride Content of Biological Tissues and Fluids," by E. Cotlove. Biochemical Journal, Vol. 82: 22, February 1962.

"Chloride," by E. Cotlove and C. A. M. Hogben. In Comar, C. L., and Bronner, F. (Eds.): Mineral Metabolism: An Advanced Treatise. New York, Academic Press, 1962, Vol. II, pp. 109-173.

"Titrations of Antibodies Against Alpha Haemolysin and the Components of Staphylococcal Leucocidin in Human Subjects Following Immunization," by S. Mudd,+ G. P. Gladstone,* N. A. Lenhart, and H. D. Hochstein. British Journal of Experimental Pathology, Vol. 43: 313-319, June 1962.

"The Assay of Anti-Staphylococcal Leucocidal Components (F and S) in Human Serum," by G. P. Gladstone, S. Mudd, H. D. Hochstein, and N. A. Lenhart. British Journal of Experimental Pathology, Vol. 43: 295-312, June 1962.

"A Modification of the Klett-Summerson Colorimeter," by H. H. Marsh. American Journal of Clinical Pathology, Vol. 37: 115-116, January 1962.

"Clinical Pathology Tomorrow," by G. Z. Williams. (Ward Burdick Award Contribution). American Journal of Clinical Pathology, Vol. 37: 121-124, February 1962.

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+ Not on NIH staff.

* Visiting Scientist -- associate author.

"Instrumentation for Time-Lapse Ultraviolet Television Microscopy," by G. Z. Williams. Annals of the New York Academy of Science, Vol. 97: 358-363, June 1962.

"Optimal Concentration of Phage for Typing of Staphylococci," by C. H. Zierdt and H. H. Marsh. American Journal of Clinical Pathology, Vol. 38: 104-108, July 1962.

"Response of the Human Dental Pulp to Amalgam Restorations," by H. Swerdlow and H. R. Stanley. Oral Surgery, Oral Medicine and Oral Pathology, Vol. 15: 499-508, April 1962.

"The Subtraction Technique: Experiences with Application of Transfemoral Renal Arteriography," by S. D. Rockoff and W. A. Camp. American Journal of Roentgenology, Radium Therapy and Nuclear Medicine, Vol. 88: 1170-1174, December 1962.

"Flow Patterns in the Heart and Great Vessels of Man," by S. D. Rockoff, R. Kahler, and E. Braunwald. American Heart Journal, Vol. 63: 553-556, April 1962.

"Evaluation of Xenon on a Gaseous Radiographic Contrast Material," by S. D. Rockoff and M. L. Mendelsohn. American Review of Respiratory Diseases, Vol. 86: 434-438, September 1962.

"Adherent Gallbladder Simulating an Intrinsic Lesion of the Right Side of the Colon," by S. D. Rockoff and W. J. Tuddenham. American Journal of Roentgenology, Radium Therapy and Nuclear Medicine, Vol. 87: 749-751, April 1962.

"How Narcotics Are Delivered to the Nursing Units," by N. Ramacciotti, In "If You Ask Me," American Journal of Nursing, Vol. 62: 52-54, May 1962.

"The Young Wife With Choriocarcinoma," by D. Tansley. Monograph 4, Technical Innovations in Health Care: Nursing Implications, 17. New York, American Nurses' Association, 1962, 40 pp.

"Adventuring with Television," by J. Wilcox. Nursing Outlook, Vol. 10: 527-529, August 1962.

"Observer Factors in the Measurement of Blood Pressure," by J. Wilcox. Journal of the American Medical Association, Vol. 179: 53-54, January 1962.

"Pointers on Measuring Blood Pressure," prepared by the Editorial Staff with the assistance of J. Wilcox. RN, Vol. 25: 70-80, May 1962.

"Opportunities Unlimited," by E. A. Jones. Journal of the American Dietetic Association, Vol. 41: 542-546, December 1962.

"Factors to be Considered in Parenteral Administration," by P. J. Pierpaoli. Pharmacy Bulletin, Vol. 9, December 1962.

"The Penicillins," by P. J. Pierpaoli. Pharmacy Bulletin, Vol. 9, October 1962.

"Some Historical Aspects of Hospital Pharmacy in Italy," by P. J. Pierpaoli. American Journal of Hospital Pharmacy, Vol. 19: 257-266, June 1962.

"Ethylene Oxide Gas Sterilizer," by M. W. Skolaut. American Journal of Hospital Pharmacy, Vol. 19: 138-140, March 1962.

"Review of Symposium on Recent Developments in the Sterilization of Surgical Materials," by M. W. Skolaut. American Journal of Hospital Pharmacy, Vol. 19: 484-487, September 1962.

"Planning a Television System for a New Hospital," by M. C. Brown and L. Blair. International Review of Medical Photography, Cinephotography, and Television (France). (Volume and page numbers not available). September 1962.

"Television and Medical Education," by M. C. Brown, World Medical Journal, Vol. 9: 125-127, March 1962.

"The Spectrum of Congenital Heart Disease Associated with Cyanosis in Adults," by S. D. Rockoff and D. Mason. American Journal of Roentgenology, Radium Therapy and Nuclear Medicine, In press.

"The Hemodynamic Significance of the Radiological Changes in Acquired Aortic Stenosis," by S. D. Rockoff and G. A. Austin. American Heart Journal, In press.

"Reversal of Reserpine Induced Myocardial Catecholamine Depletion by Norepinephrine Infusion: Implications in Anesthesiology," by D. H. Morrow, T. E. Gaffney, and C. H. Chidsey. Anesthesia and Analgesia: Current Researches, In press.

"Influence of Various Drugs and Anesthetic Agents on Cardiac Excitability in Man," by J. H. Sprouse, A. Galindo, and A. G. Morrow. Abstract. Anesthesiology, In press.

"Studies on Digitalis, VII: Influence of Hyper and Hypothyroidism on the Myocardial Response to Ouabain," by D. H. Morrow, T. E. Gaffney, and E. Braunwald. Journal of Pharmacology and Experimental Therapeutics, In press.

"Studies on Digitalis, VIII: Effect of Autonomic Innervation and of Myocardial Catecholamine Stores Upon the Cardiac Action of Ouabain," by D. H. Morrow, T. E. Gaffney, and E. Braunwald. Journal of Pharmacology and Experimental Therapeutics, In press.

Meetings Held at the Clinical Center

NIDR Program for the District of Columbia Dental Society, January 9.

R. E. Dyer Lecture by Dr. Rollin D. Hotchkiss of the Rockefeller Institute, January 10.

Student Fellowship Research Seminar of the Montgomery County TB and Heart Association, February 3.

PHS Junior Level Orientation Course (employees), February 8.

Student Fellowship Research Seminar of the Montgomery County TB and Heart Association, February 10.

Washington Section of the International Association for Dental Research, February 26.

NIH Lecture by Edgar Ribi, Ph. D., February 28.

Washington Metropolitan Chapter of the National Association of Social Workers, March 2.

Discussion of Immunity of Mycobacterial Diseases, March 29-30.

Physicians' Cancer Conference, March 29.

Cooperative Drug Study Annual Conference, April 1-2.

16th Annual Meeting of the USPHS Clinical Society, April 4-7.

"Neuroanesthesia" Section of World Neurology, April 8-9.

Clinical Meeting of the James Ewing Society, April 25.

NIH Lecture by Dr. Melvin Calvin, April 25.

NCI Conference for Science Teachers and Students in the Metropolitan Area, May 5.

Blalock Society, May 8.

Annual Montgomery County Tuberculosis and Heart Association's Cardiac Symposium, May 9.

Fourth Annual Council on Medical Television, May 15-16.

14th Annual Conference on Chief Social Workers from State Mental Health Programs, May 24-26.

Eleventh Annual Awards Ceremony, June 14.

COSTEP Orientation Program (employees), June 26.

NIH Orientation Course (employees), June 28.

Special Orientation for Clinical and Research Associates and Other Commissioned Officers (employees), July 10.

NIH Orientation Seminar on Employee-Management Cooperation (employees), July 13.

Heart Disease Control Orientation Program for new Medical Officers, July 25.

Scientific Sessions by the Heart Associations of Washington, D. C. and Maryland, September 27.

The American College of Cardiology Workshop Program, September 28.

International Symposium on Newer Respiratory Disease Viruses, October 3-5.

Symposium on Recent Developments in Research Methods & Instrumentation, October 8-12.

NIH Lecture by Dr. Glenn T. Seaborg, October 17.

Combined Clinical Staff Conference, November 8.

Annual Frieda Fromm-Reichmann Memorial Lecture, November 16.

Washington Associates of Bank Street College of Education, November 19.

Lecture by Dr. Hans Ericsson, December 3.

Scientific Meeting on Mental Retardation, December 6.

NIH Lecture by Dr. Joseph E. Smadel, December 12.

Lecture by Dr. Harry Harlow, December 14.

Combined Clinical Staff Meeting, December 20.

Distinguished Foreign Visitors

Twenty physicians and public health representatives from the Pan American Health Organization from Latin American countries.

Dr. V. E. Erschov, D.V.M., Director of the All-Union Institute of Helminthology, Moscow, U.S.S.R.

Dr. Ladislav Borecky, Head of Research Group at the Institute of Virology, Czechoslovak Academy of Sciences, Bratislava, Czechoslovakia.

Dr. Mikhail M. Kapitchnikov, Institute of Experimental Biology, Moscow, U.S.S.R.

Dr. Moses Majekodunmi, Federal Minister of Health of Nigeria and party.

Dr. Valerie S. Shumakov, First Moscow Medical Institute, Moscow, U.S.S.R.

Dr. Valerie N. Zubtsovsky, First Lenigrad Medical Institute, Leningrad, U.S.S.R.

Dr. Gleb M. Solovyev, First Moscow Medical Institute, Moscow, U.S.S.R.

Dr. Fedor M. Romashov, Institute of Cardiovascular Research, Moscow, U.S.S.R.

Mr. Leonid N. Yakhontov, Senior Scientific Worker, Ordzhonikidze All-Union Chemical Pharmaceutical Research Institute, Moscow, U.S.S.R.

Dr. Seydou Conte, Ambassador from the Republic of Guinea to the U.S.

Dr. Cloutier, New President of the World Federation for Mental Health, Paris, France.

Dr. Noble, Minister of Health, Queensland, Australia.

The Empress Farah of Iran and party.

Dr. J. J. M. Leeuw, Financial and Economic Director of the Faculty for Medicine and Dentistry, University of Nijmegen, Netherlands.

Mrs. Jose A. Chavez, Wife of Economic Counselor, Embassy of El Salvador.

Mrs. Duro Feleb, Wife of Interpreter, Embassy of Yugoslavia.

Mrs. Michiyoshi Kawada, Wife of Commercial Secretary, Embassy of Japan.

Mrs. Dan Kenny, Wife of Assistant Military, Naval, and Air Attache, Embassy of Israel.

Mrs. Leif Leifland, Wife of First Secretary, Embassy of Sweden.

Mrs. Philippe Legrain, Wife of First Secretary, Embassy of the French Republic.

Mrs. Louis Mars, Wife of the Ambassador, Embassy of Haiti.

Mrs. Juro Matsumoto, Wife of Financial Secretary, Embassy of Japan.

Mrs. A. J. Melhuish, Wife of Second Secretary, Embassy of Australia.

Mrs. Tetsuro Ohata, Wife of Commercial Counselor, Embassy of Japan.

Mrs. Adnan Ozaktas, Wife of Assistant Press Attache, Embassy of Turkey.

Mrs. Jose Paoli, Wife of First Secretary, Embassy of France.

Mrs. Simeon Pobulic, Wife of Attache, Embassy of the Federal People's Republic of Yugoslavia.

Mrs. J. S. Rowlands, Wife of Attache, British Embassy.

Mrs. Martin Schott, Wife of Second Secretary, German Embassy.

Mr. Peter Schoettle, Husband of First Secretary, German Embassy.

Mrs. H. W. Sterne, Wife of Assistant Military Attache, Embassy of Canada.

Mrs. A. E. Van Dishoack, Wife of Military Attache, Embassy of the Netherlands.

Mrs. Herbert Weil, Wife of First Secretary, Embassy of Germany.

Mrs. Abe Wihtol, Wife of First Secretary, Embassy of Finland.

Dr. J. A. Spencer, House Governor, Royal Marsden Hospital, London, England.

Dr. Nicolas Toufic, Director, Institute of Ophthalmology, Bomako, Republic of Mali, West Africa.

Mr. Ato Abebe Retta, Minister of Public Health, Ethiopia.

Dr. Alexander Keynan, Director, Biological Research Laboratory, Ness-Zione, Israel.

Dr. Lahov, Scientific Counselor, Embassy of Israel.

Dr. Juan Crottogini, Dean, University Medical Faculty, University of Montevideo, Montevideo, Uruguay.

Dr. Kazimierz Dabrowski, Director, Institute of Mental Hygiene, Poland.

Dr. A. I. Rakov, Chairman, Department of Surgery, Institute of Oncology, Academy of Medical Sciences, Leningrad, U.S.S.R.

Mr. Alexander Izvekov, First Secretary of the Soviet Embassy.

Dr. Eugene P. Sidorick, Member of the Permanent Scientific Staff of the Ukraine Institute for Scientific Research in Experimental and Clinical Oncology, Kiev, U.S.S.R.

Dr. Stefan M. Naude, President, South African Council for Scientific Research, Pretoria, South Africa.

Mr. Masson, Scientific Attache, Embassy of South Africa.

Dr. Abdel Moneim-Ezzat, Chief Medical Officer, Ministry of Social Affairs and Labor, Cairo, Egypt.

Dr. Francisco Duque, Minister of Health, Philippines.

Mrs. Frederic Fernand Guirma, Wife of Ambassador from Upper Volta.

Dr. S. E. Onwu, Director of Medical Services, Eastern Nigeria.

Dr. V. Subrahmanyan, Director, Central Food Technology Research Institute, Mysore, India.

Mrs. Villeda Morales, Wife of President of Honduras.

Mrs. Martinez, Wife of Minister of Health, Honduras.

Dr. Nowshir K. Jungalwalla, Deputy Director General of Health Services, India.

Dr. Robert Collis, Director, Institute of Child Health, University College, Ibadan, Nigeria.

Mr. Dmitry Muravyev, First Secretary, Embassy of the U.S.S.R.

Dr. A. Vergei, Embassy Physician, Embassy of the U.S.S.R.

Dr. Galina Muravyev, Wife of the First Secretary, Embassy of the U.S.S.R.

Dr. Novash, Embassy of the U.S.S.R.

Dr. Tufonov, Embassy of the U.S.S.R.

Dr. Gerhardt Jungmann, Member of Parliament, Hanover, Germany.

Dr. Mohammed El Bitash, Undersecretary of State, Ministry of Health, Egypt, UAR.

Dr. Jose Orellana, Senator of the Ecuadorian Congress, Quito, Ecuador.

Dr. Karunaratne, Director of Health, Ceylon.

Dr. Sergey G. Drozdov, Candidate in Medical Sciences, Fellow of the Poliomyelitis and Viral Encephalitis Institute, Soviet Academy of Medical Sciences, Moscow, U.S.S.R.

Dr. Anatoli N. Shlepushkin, Senior Research Worker, Institute of Virology im. Ivanosky, Soviet Academy of Medical Sciences, Moscow, U.S.S.R.

Dr. Francisco Torres Bracamonte, Director General of Health, Bolivia.

Dr. J. Spaey, Secretary General to the Commission Nationale de la Politique Scientifique, Belgium.

Mr. S. A. Ladiende, House Governor, University Hospital, Lagos, Nigeria.

Professor Muhterem Gokmen, Director, Institute of Radiology, University of Istanbul, Istanbul, Turkey.

Dr. Jaoquim Eduardo de Alencar, Director of the Institute of Preventive Medicine, University of Ceara, Ceara, Brazil.

Dr. Anatolii M. Vikhert, Chief of Pathology, Institute of Therapy, Academy of Medical Sciences, Moscow, U.S.S.R.

Dr. George Avdeyev, Senior Scientific Worker, Oncological Institute of Moscow, U.S.S.R.

Dr. Chong Seung Lee, Director, National Institutes of Health, Seoul, Korea.

Prof. Aleksandr L. Myasnikov, Director of the Institute of Therapy, Academy of Medical Sciences, Moscow, U.S.S.R.

Prof. Nodar N. Kipshidze, Director of the Institute of Therapy, Tbilisi, Georgia, U.S.S.R.

Prof. Pavel E. Lukomskiy, Chief Therapist at the Ministry of Health, Moscow, U.S.S.R.

Dr. I. I. Arkhangelsky, Deputy Director of the Scientific Research Institute for Veterinary Sanitation in Moscow.

Dr. M. N. Ivanov, Laboratory Head, Scientific Control Institute for Veterinary Medicine, Moscow, U.S.S.R.

Dr. Hideo Naito, Director, Ibaragi Prefectural General Hospital, Ibaragi, Japan.

U.S.S.R. Psycho-pharmacology Delegation:
Dr. Grigori Y. Avrutski
Dr. Eduard A. Babayan
Dr. Mikhail D. Mashkovski
Dr. Boris A. Medvedev
Dr. Andronik A. Megrabyan
Dr. Andrei V. Snezhnevski

Dr. Nicholai Navokov, Program Officer, United Nations Children's Fund, U.S.S.R.

Professor and Mrs. Roberto Mendiola, Rector of the University of Guadalajara, Guadalajara, Mexico.

Lt. General W. A. Burki, Special Assistant to President Ayub of Pakistan.

Dr. Vasilii Lashkevich, Head of the Laboratory for Production of Live Polio Vaccine, Institute for Poliomyelitis and Viral Encefalitides Research, Moscow, U.S.S.R.

Dr. S. P. Ramakrishnan, Director of the Malaria Institute of India, Madras, India.

Group of Philippine Medical Education Leaders:

Dr. Lloyd Florio, Tour Coordinator and Chief, Health Division, USAID

Mrs. Anunciacion B. Aznar, President, Southwestern University, Cebu City.

Dr. Uldarico C. Bacay, Chairman, Board of Administration, Cebu Institute of Technology.

Mr. Teodoro T. Evangelista, President, Far Eastern University, Manila.

Rev. Fr. Juan Labrador, O. P., Rector Magnificus, University of Santo Thomas, Manila.

Dr. Julian Paguyo, Secretary, Board of Medical Education of the Philippines.

Dr. Benjamin R. Roa, Member, Board of Medical Education and President, Philippine Medical Association.

Dr. Ambrosio F. Tangco, Member, Board of Regents, University of the Philippines.

Prof. Aleksandr Stepanovich Khokhlov, Deputy Director of the Institute of the Chemistry of Natural Compounds, Academy of Sciences of the U.S.S.R., Moscow, U.S.S.R.

Dr. Bocar-Alpha Ba, Minister of Health, Labor, and Social Affairs, Republic of Mauritania.

Dr. Jose Kuri, Dean of the Medical School of El Salvador, San Salvador.

Mrs. Stig Abelin, Wife of Second Secretary, Embassy of Sweden.

Mrs. Finn Bergstrand, Wife of Attache, Embassy of Sweden.

Mrs. Pierre Calogeras, Wife of Counselor, Embassy of Greece.

Mrs. Vincente Almeida D'Eca, Wife of Naval Attache, Embassy of Portugal.

Mrs. Ro Myung Gong, Wife of Third Secretary, Embassy of Korea.

Mrs. Henryk Ladon, M.D., Wife of Military, Naval, and Air Attache, Embassy of the Polish Peoples' Republic.

Miss Rinsla Naude, Daughter of the Ambassador, South Africa.

Mrs. Udom Pumhirum, Wife of Naval Attache, Embassy of Thailand.

Mrs. Baudoin van Remoortere, Wife of Asst. Military, Naval, and Air Attache, Embassy of Belgium.

Mrs. Arthur W. von Magnus, Wife of Third Secretary, Embassy of Germany.

Mrs. Carlos Washington Walsh, Wife of Asst. Naval Attache, Embassy of the Argentine Republic.

Mrs. Hogan Yoon, Wife of Counselor, Embassy of Korea.

PUBLIC HEALTH SERVICE, NATIONAL INSTITUTES OF HEALTH

SUMMARY ANNUAL REPORT OF PROGRAM ACTIVITIES
CLINICAL CENTER

CLINICAL & PROFESSIONAL EDUCATION BRANCH

CC-02
Serial No.

Missions:

General - This organization is concerned with diversified programs of professional education and other activities with educational implications for the Clinical Center and the National Institutes of Health.

Specific - This Branch administers the following programs:

. . . . Clinical and Professional Education

a. Clinical Fellows
b. Clinical Associates
c. Research Associates

. . . . CORD Deferments "Matching Program"

. . . . NIH Orientation (Compass) Courses

. . . . NIH-PHS Senior Level and PHS New Employee Orientation Courses

. . . . High School Science Teachers Chemistry-Physics Institute

. . . . Science Research for High School Students

. . . . Commissioned Officer Student Training and Extern Program (COSTEP)

. . . . Summer Fellowships in Medical Research for High School Students

. . . . Graduate Program at NIH (formerly NIH-USDA), an evening course program operating with the approval of the Director, NIH, and under license by the Federal Government to the "Foundation for Advanced Education in the Sciences, Inc."

. . . . Television research, development, and program activities of the Clinical Center and NIH

Residency Programs

Two types of residencies, offered at the Clinical Center, are administered through this office.

1. Clinical Fellows

The Clinical Center professional departments providing complete training in specialty fields (including research training in components that are not available elsewhere) are listed below:

| Service | Approved | Residents Currently in Training |
|---|---|---|
| Anatomical Pathology 1/ | 3 years | 7 |
| Clinical Pathology 1/ | 3 years | 6 |
| Diagnostic Radiology | 4 years | 3 |
| Oral Pathology | 2 years | 1 |

The Institutes also conduct residency training. Current approved Clinical Fellowship programs are listed below:

| Service | Institute | Approved | Residents Currently in Training |
|---|---|---|---|
| Internal Medicine | NHI | 1 year | 6 |
| Neurology | NINDB | 2 years | 3 |
| Psychiatry | NIMH | 1 year | 5 |
| Dermatology | NCI | 1 year | 2 |

Clinical Associates

All seven of the Institutes have appointed young physicians to clinical services generally given to residents. These were assignments that could not qualify for residency training without changes in the operation of the program per se. The Institutes' programs, which require one or more years of residency prior to appointment, include extensive laboratory research investigation.

Since activation of the PHS-CORD program, nearly all Clinical Associate appointments by the Institutes have been made through this arrangement. Staff patterns are stabilized for one or more years in advance. Deferment for training under the UMT and Service Act and an assurance of future duty with one of the Institutes have made these appointments doubly attractive.

Research Associates

This training program for young physicians, initiated through the Scientific Advisory Committee in 1957, was designed to prepare them

1/ Combined 4-year program in Clinical and Anatomical Pathology is offered.

for investigative careers in the basic sciences. It combines some of the advantages of full-time study in a graduate school with postdoctoral training in a research laboratory.

This 2-year program consists of a series of formal lectures in the basic sciences; informal seminars in biochemistry, physiology, microbiology, genetics and psychology; and a weekly Journal Club meeting devoted to discussions of the problems encountered in the laboratory and the presentation of reviews in each specific field of interest.

These Associates, generally appointed by the Institutes' Scientific Directors after completion of internship or the first year of residency, engage in laboratory research under supervision of a preceptor.

The CORD Program

The mechanisms established in this program have been successfully incorporated into the selection process for Clinical and Research Associates. Deferments continue to be arranged by this office's representations to the PHS-CORD Committee through official channels. The Chief of the Branch, as Chairman of the Committee, participates in the deliberations on all NIH nominees. Since NIH began requesting deferment for specific assignments in specific Institutes, our pattern has become standard deferment procedure throughout PHS.

PHS CORD Committee

During the past several years the CORD deferment system has become a primary and major source of officers for all the bureaus of the Public Health Service. Two major difficulties have been encountered which have caused some confusion and work at cross purposes between the bureaus. The National Institutes of Health deferred all of its men for definite future billets to which the Institute or organizational unit made a firm commitment. Other bureaus deferred for service with the bureau in unspecified positions or, in more recent periods, for service with a division. NIH also made certain that every candidate had accepted the precise billet to which he was to be assigned prior to taking action on his deferment. Other bureaus offered deferment for much less well-defined positions and frequently failed to make the nature of the assignment clear. As a result a great many of their deferees were very unhappy at the time they were called to duty or when they discovered the exact nature of the assignment to which they were to be called. For this reason there have been a great many requests for change of assignment and considerable shopping around for billets by men who did not like their assignments. Some men were not frank during their shopping and did not make clear their commitments to other bureaus and divisions. The opportunity for inter-bureau strain and misunderstanding has been great and some inequity is evident. The second problem in this program was the fact that NIH staffed its operation with a secretariat that was competent and effective while other bureaus depended entirely upon the services of DCOP which could not provide the machinery for the personalized and competitive selection that prevails at NIH. Part of this problem involved the use of routine channels both for information on the programs and selection of men for each specific program.

Poorly briefed Bureau representatives met together and selected, on the basis of medical school grades and other material in their folders, men to serve in programs that required specialists in particular categories. Frequently there was a lack of knowledge, both of the exact need of the program, and of the qualifications of the selectee. A very poor job of matching men to programs was, therefore, inherent in the procedure.

During 1962 the Chief of this Branch was made Chairman of the PHS Cord Committee. As a first step toward elimination of some of these difficulties the committee was persuaded that a matching of men by interest with the needs of programs could be accomplished this year. The committee also agreed that every man could be notified of a definite billet and his acceptance obtained before deferment. By dint of prodigious work by the DCOP staff and by the use of a makeshift interim procedure this was accomplished this year. The committee is now studying methods for the development of streamlined procedures which will be sufficiently uniform throughout the Service to avoid confusion and conflicts, yet flexible enough to preserve the necessary autonomy in each bureau and division. The committee is now at the point where the need for a competent secretariat in each bureau is accepted. The remaining steps will be concerned with procedure.

The "Matching Program"

In 1958 this program was developed to resolve serious problems which had arisen due to certain aspects of the selective process in the Clinical and Research Associate programs. In collaboration with the Scientific and Clinical Directors of participating Institutes, this office proposed an operational plan by which final selection of candidates would be determined by "matching" the applicants' preferences with the availabilities of the Institutes involved.

In 1960 the program underwent some "fringe" changes. The revised program has proven an effective instrument for producing large numbers of applicants with background satisfactory to NIH standards and whose interests and training have prepared them for NIH consideration. The program combines service and training over a period of 2 years after the candidate's period of deferment from obligated duty for residency training elsewhere. Besides eliminating much unproductive processing and interviewing of applicants, the program has brought Institute harmony in final selection and appointment of these junior staff members. This system has also made it possible for PHS's other Services to recruit young physicians of high caliber who could not be accommodated by NIH programs. Other statistics on the 1962 "Matching Program" (1964 appointments) are set forth in Attachment A.

## CLINICAL AND RESEARCH ASSOCIATE MATCHING PROGRAM STATISTICS

| | | | |
|---|---|---|---|
| Total Inquiries | | | 1527+ |
| Non-eligibles | | | 38 |
| Applications Sent | | | 700+ |
| Files Established | | | 300 |
| Withdrew & Non-eligible after filing application | | | 20 |
| Rejects before selection by Institutes | | | 28 |
| Considered for Appointment | | | 252 |
| Interviews Arranged | | | 1289+ |
| Total Appointed | | | 132 |
| Clinical & Research Associates Appointed | | 117 | |
| Others Appointed | | 15 | |
| For Active Duty in 1964 | 95 | | |
| For Active Duty in 1963 | 20 | | |
| For Active Duty in 1965 | 9 | | |
| For Active Duty in 1966 | 6 | | |
| For Active Duty in 1967 | 2 | | |

The following is an analysis of candidates considered by programs for which they applied:

| | |
|---|---|
| Clinical Associate Only | 94 |
| Research Associate Only | 30 |
| Clinical & Research Associate | 128 |

The following is an analysis of candidates by Institute to which they applied.

| | TOTAL | CLINICAL ONLY | RESEARCH ONLY | BOTH |
|---|---|---|---|---|
| NCI | 136 | 43 | 19 | 74 |
| NHI | 158 | 44 | 19 | 95 |
| NIAID | 113 | 29 | 12 | 72 |
| NIAMD | 147 | 38 | 18 | 91 |
| NIDR* | 15 | 5 | 3 | 7 |
| NIMH | 53 | 10 | 11 | 32 |
| NINDB | 57 | 25 | 8 | 24 |
| OIR | 19 | | 19 | |
| CC-ANES. | 6 | 6 | | |

*These were for Medical Officer positions.
(For further statistics on the program, see Attachment A)

NOTE: At the conclusion of this year's program, the Scientific and Clinical Directors, in a combined meeting, recommended several things to be done for next year's Matching Program:

1. Preparation and placement of announcements of the 1963 program setting forth the procedures, deadline dates, designation of the office handling all correspondence and interviews, and other pertinent data shall be furnished

to the "NIH News Service for Professional Journals".

2. The announcement of the 1963 program setting forth deadline dates etc. shall be sent to the following:

a. President of the senior calss of all medical and dental schools in the United States.

b. Deans of all medical and dental schools in the United States.

c. Chiefs of Medical and Surgical services in the hospitals where most of the candidates come from.

d. PHS Regional Offices and PHS Hospitals and Outpatient Clinics.

Schedule of the 1963 calendar and Program Procedures are set forth in Attachment B.

Support of Clinical Education

The Education Committee of the Medical Board, with the Chief of this Branch serving as Chairman, conducted eight Combined Clinical Staff Meetings and Clinicopathologic Conferences. The dates and attendance of these inter-disciplinary and inter-Institute exchanges of professional knowledge are listed below:

| Date | Class. | Topic | Attendance |
|---|---|---|---|
| 1/11/62 | CCSM | Biochemical Abnormalities in Hereditary Diseases (NIAMD) | 128 |
| 1/25/62 | CCSM (night) | Aortic Stenosis (NHI) | 289 |
| 2/8/62 | CCSM | Psychological and Genetic Aspects of Schizophrenia (NIMH) | 103 |
| 4/12/62 | CCSM | Experiments in Biological Calcification (NIDR) | 57 |
| 5/10/62 | CPC | Chronic Lymphatic Leukemia (NCI) | 77 |
| 6/7/62 | CCSM | Symposium on Malaria (NIAID) | 70 |
| 11/8/62 | CCSM | Focal Lesions in the Etiology of Epilepsy (NINDB) | 78 |
| 12/20/62 | CCSM | Current Studies on the Effects of Anti-Metabolites in Non-Neoplastic Diseases and Experimental Animals (NIAID) | 102 |

Staff support for all meetings was supplied by this office.

The Education Committee met four times during 1962. Following precedent of former years, residency appointments were recommended, staff meetings planned, and the meetings to be submitted to the Annals of Internal Medicine were determined. Dr. Joseph Bunim supervised the editorial work on the manuscripts selected for publication.

Graduate Program at NIH

During the summer of 1961 the Foundation for Advanced Education in the Sciences, Inc. negotiated a license with the Government to conduct the evening course program under the title "Graduate Program at NIH".

As part of the administrative arrangement of the program, NIH has designated the Chief of this Branch to serve as Director of the Graduate Program at NIH. He serves in this capacity without pay. These services are considered part of the NIH contribution. NIH also contributes space, utilities, and supporting services to the Foundation. The Foundation supplies the administrative and educational staff. It also protects the Government from property damage in the conduct of the program.

One of the significant developments during the year was the establishment of a "departmental" structure for the school. It is now operated by faculty groups divided into subject fields. Each group has a faculty chairman who serves on a central committee that reviews the entire program. Faculty chairmen are responsible for developing a curriculum to meet the needs in their subject fields. The largest immediate gain has been the institution of more basic courses as prerequisites to the more advanced work offered in the program. This has made it possible to enforce these prerequisites more rigidly and thereby assure that the students in advanced courses are more uniformly and better qualified. It is also developing a strong feeling of participation on the part of the faculty that is resulting in better morale.

The following statistics are of interest:

| Registration | No. Enrolled | No. Courses Offered | No. Courses Given |
|---|---|---|---|
| Spring 1962 | 418 | 28 | 18 |
| Fall 1962 | 781 | 40 | 35 |

Among the responsibilities of the Chief of the Branch are those pertaining to (1) recent developments in Graduate Medical Education, (2) advances in all media of mass communication, and (3) stimulation and interpretation of the NIH Clinical and Professional Education programs with deans and other officials of medical schools with a view to recruitment of young physicians with good background and qualifications to the programs offered at NIH and PHS. In the fulfillment of this responsibility the Chief of the Branch attended the following meetings and conferences:

Jan. 14, 1962 — Vermillion, S. Dak. - Consultation with Dr. Walter Hard, Dean, School of Medicine, University of South Dakota, and his faculty regarding closed-circuit television setup for use in conjunction with their medical education program.

Jan. 31, 1962 — London, England - Addressed the Royal Microscopical Society (by invitation). Address titled "The Status of Some Instruments for the Microscopy of Living Tissues."

| | |
|---|---|
| May 31, 1962 | New York, N.Y. - Conference with John MacKenzie, Council on Medical Television. Consultation with hospital administrators re television application. |
| June 12, 1962 | Chicago, Illinois - Presented paper by invitation at the Symposium on Microscopy, Micro 62, sponsored by McCrone Associates. |
| June 13, 1962 | New York, N.Y. - Participated in Workshop Seminar on "Closed Circuit TV in Hospitals." |
| July 20, 1962 | New York, N.Y. - Attended Executive Committee of the Council on Medical Television. |
| August 15, 1962 | Durham, N.C.--Duke University--Met with the Program Planning Committee, American Association of Anatomists. |
| Nov. 13, 1962 | Philadelphia, Pa. - Attended Executive Committee, Council on Medical Television. |
| Nov. 24, 1962 | London, England - Planning for the first American meeting of the Royal Microscopical Society to celebrate the tercentenary of the microscope in living biology - Conference with the Executive Council of the Society. |
| | Visited the Electric and Music Industries Ltd. to discuss new developments relating to our television research. Discussions with the Professor of Research at Guy's Hospital re developments of screening techniques for early diabetic retinitis and consultation with Cavendish Laboratories at Cambridge re instrumentation. |
| HONORS: | The Chief of the Branch was: |
| | Elected to membership in American Association of Anatomists. |
| | Elected Honorary Fellow of the Royal Microscopical Society, London, England. |
| | Elected Honorary Chairman, Council on Medical Television. |
| Publications: | Television and Medical Education, Brown, Murray C., World Medical Journal, Vol 9:125-127, March 1962. |
| | Planning a Television System for a New Hospital, Brown, Murray C. and Blair, Lewis. International Journal of Medical Photography, Cinematography and Television - Paris. |

Commissioned Officer Student Training and Extern Program (COSTEP):

The COSTEP Program entered its seventh year of formal organization in 1962. This program is designed to introduce young professional students to the PHS at an advanced stage in their predoctoral training through providing them with employment affording an opportunity for professional growth. The Chief of Clinical and Professional Education served as Chairman of the PHS COSTEP Committee for a 5-year period ranging from its organization in 1956 through 1960. The Deputy Chief of this Branch served as Chairman for the 1961-62 term and is continuing as a committee member.

In the summer of 1962 seven Institutes and two Divisions employed 27 medical, 9 dental, 4 veterinarian, 5 engineering, and 2 scientist students.

The medical students on duty during the summer of 1962 were drawn from 17 schools of medicine.

Year-round participation in COSTEP has steadily increased. The number of medical students on duty during periods other than summer months increased from 3 in 1960 to 10 in 1962. Total for all categories (summer months excluded) rose from 6 in 1960 to 14 in 1962. This fall and winter 10 medical, 3 engineering, and 1 scientist,students have been on duty. The number of medical schools including an elective quarter in their curricula (COSTEP tour of duty acceptable) seems to be increasing.

Appointment of Former COSTEP Participants as Clinical & Research Associates

Since 1956, twenty-three former COSTEP officers have been appointed as either Clinical or Research Associates. Although the COSTEP participant receives no preferential treatment because of his tour of summer duty, he has competed more successfully than the non-COSTEP man. Originally the NIH role was seen as one of indirect and long-range assistance in recruiting officers for other Bureaus of the Service. Our current conclusion is that we were incorrect in our 1955 presumption that the program was not a recruiting mechanism per se for NIH. In addition to the tangible results cited, innumerable intangible benefits accrue to NIH and the Service as a result of these young professional people having served at NIH.

Seminars and Special Sessions:

Eight evening seminars were held by NIH scientists primarily for the medical, dental, veterinary medicine, and Ph.D. candidates in the basic and biological sciences. COSTEP students assigned to other PHS Bureaus were extended invitations. In addition the seminars were open to science students employed under the Civil Service summer program. Usually three to five NIH staff members were present for each session.

The dental students organized an additional series of five afternoon seminars which dealt with topics more directly related to the field of dentistry. They also met with the Chief of the Dental Department, CC, for an informal discussion of the PHS Dental Internship.

Health Educators - A special seminar on racial isolates was set up to meet the request of nine COSTEP Health Educators assigned to other PHS Bureaus--presented by Dr. Jan K. Moor Hankowski, a Visiting Scientist.

Engineering Students - Arrangements were made, after preliminary discussion with the students, for an over-all session on engineering operations across the PHS, and visits to Laboratory of Technical Development, NHI, and Basic Research (Section on Technical Development), NIMH.

Autopsies; Rounds - Appropriate categories of students who obtained permission in advance were allowed to observe autopsies and go on ward rounds.

PHS Medical Internship - A group of medical COSTEP officers who wished more intimate insight on internships met with NIH staff members who had completed internships in different PHS Hospitals within the last 4 years. Student reaction to this session was very good and no adverse reaction to dropping the usual visit to a PHS Hospital was encountered; this also held true for the counterpart dental intern session previously mentioned.

Interviews, Inquiries, Consultant Service

There are about 100 interviews per annum granted students who are seeking information on COSTEP and other student employment programs. The inactivation interviews, which average about 50 per year, are additional. The COSTEP program stimulates the referral of students ranging from the pre-college level through the graduate level for counseling. Aid is given to DCOP relative to the preparation of printed brochures and public information items on COSTEP.

Two New Categories Added

Potential P.H. Educators and Pharmacists were added to the program this year. This year NIH did not have any billets for these students; however, eight "educators" were placed in BSS and three "pharmacists" assigned to BMS.

Problems and Recommendations:

The program continues to have the problems of limited space (many scientists indicate they would like to have a COSTEP student but have no physical space in which the man could work) and budget. On the latter item, COSTEP positions, unfortunately are usually in direct competition with regular positions, equipment needs - in effect with all of the operating needs of the laboratory. The 1961-62 PHS COSTEP Committee, under the leadership of the Deputy Chief of this Branch, officially approved at its 9 October 1962 meeting a listing of "Problems and Recommendations Re COSTEP" for forwarding to DCOP. This document, which was submitted to DCOP on 24 October 1962, follows.

EXHIBIT A

# PROBLEMS AND RECOMMENDATIONS RE COSTEP

By 1961-62 PHS COSTEP Committee

| Problem | Recommendations |
|---|---|
| I. The mechanics of applying for a COSTEP position, being brought on duty, and being inactivated tend to work to the disadvantage of the program. Some specific points are as follows:<br><br>- The application form 50 is confusing<br>- The multiplicity of people and units who write COSTEP students<br>- Orders going out late (one set actually mailed the day after the student was called to duty).<br>- Issuance of orders for students going off duty frequently run late and sometimes are issued post facto.<br>- Payment of travel vouchers are frequently unduly delayed.<br>- Students having to make many administrative stops in coming on duty and also going off duty. | I. It is recommended that the most expert skills within the Service and if needed outside the Service, be engaged to make a most minute and detailed study of all logistics of the personnel system relating to COSTEP. This should include, but not be limited to:<br><br>- Study and revision of the form 50<br>- Flow Chart of the paperwork on a student from the time application is made until inactivation. Should indicate distances separating processing units and also "dividing" authority lines.<br>- Study of automation in storage and retrieval of data so that absolutely current information is immediately available on the status of a student's application. |
| II. Entrance on duty and inactivation dates are frequently changed with insufficient notice and seemingly insufficient grounds. This results in expensive recalling and redoing of 1662s (request for Personnel Action - C.O.) and 1373s (Application for Separation). | II. Continue to work well in advance with student and preceptor in establishing satisfactory entrance on duty date and inactivation date. Once these dates are established they should be adhered to unless a change of date is requested 30 days in advance. |

| Problem | Recommendations |
|---|---|
| III. Lag in the supplying of inactive identification cards (the only ID cards supplied to students). The time lag is greater for field stations because of the necessity of sending cards to Headquarters PHS for lamination. | III. Consider allocating field stations authority to prepare inactive ID cards. |
| IV. Need for more publicity on the program. Over the years COSTEP has become better known. However, very frequently students comment that the program was unknown at their school and that they heard about it accidentally. | IV. In addition to the Dean channel, use student organizations and class presidents or representatives. More photographic coverage with "deep" cut lines rather than long releases without photographs. Students picture to hometown paper, school paper, feature spreads, etc. |
| V. The need for central funding. | V. See memorandum of February 5, 1962 (Exhibit B) previously submitted to DCOP on this subject. Memorandum approved for resubmission with deletion of first paragraph with exception of first sentence; reference to Folsom Committee deleted in next to last paragraph. |
| VI. Need for revision of COSTEP brochure. | VI. Revise the current brochure adding copy to cover new categories recently added. Where appropriate in relation to certain categories indicate number of positions limited. Clarify qualifications required of graduate students in the sceinces. Pretest the brochure. |
| VII. Determining eligibility. | VII. Re-emphasize that Boards should approve only those candidates who are fully qualified regardless of the short-tour-of-duty aspect. |

| Problem | Recommendations |
|---|---|
| VIII. Functions of COSTEP Committee. At the present time there are no written instructions as to this Committee's functions and responsibilities. | VIII. Request clarification. |
| IX. Gearing of COSTEP efforts to projected manpower needs of the Service. | IX. Ascertain on best scientific basis possible future manpower needs of the Service. |
| X. Record keeping and follow up. | X. Design and put into operation a system which will give a sound statistical basis for continuous evaluation of the effectiveness of the COSTEP program. |
| XI. Philosophy re recruitment. Concept seems to embrace limited recruitment because too many candidates for too few jobs might cause a breech in public relations. | XI. Make information on the program available to all "accredited" institutions. Attention can be focused on schools considered superior in terms of producing outstanding students in the category of interest. Operate on basis of selecting "cream of the crop". |
| XII. Re 1960 COSTEP Study. | XII. Review and bring up to date. Determine recommendations currently valid--establish priorities--proceed to implement. |
| XIII. Confusion as to whether or not COSTEP positions are counted against permanent cadre of positions results in potential preceptors losing interest in the program and ceasing to informally recruit. | XIII. Clarify this issue preferably removing COSTEP positions from competition with permanent staff positions. (Ref. point 2 of Exhibit B). |

EXHIBIT B (copy modified 9 October 1962)

Dr. Elton S. Osborne, Jr. February 5, 1962
Chief, Division of Commissioned Officer Personnel

Joseph A. Staton
Chairman, COSTEP Committee

Recommendation Re Central Funding For Commissioned Officer Student Training and Extern Program (COSTEP)

The PHS COSTEP Committee has reiterated its belief that some form of central funding is not only desirable, but practically mandatory to the continuing success and expansion of the program.

Specifically, the COSTEP Committee feels that central funding at the headquarters level of PHS or at the Bureau level is important for the following reasons:

1. To permit firm, advance estimates of positions.

   Under the current system units have to span two fiscal years; the bulk of COSTEP officers come on duty in June for approximately a period of 90 days. This leads to unreliable estimates which handicaps the potential preceptor in planning for a student and generally prevents the recruitment effort being made in the most effective manner.

2. To remove COSTEP positions from competition with permanent staff positions and equipment needs.

3. To capitalize on the increasing availability of students for duty during periods other than the summer months.

   The present trend for medical schools to include an elective or experience quarter as a part of the official curriculum has resulted in a marked increase in the number of medical students on duty in the fall and winter months. The engineer category is also utilizing the year-round feature of COSTEP. The proposed advance commitment of funds would assure sound planning, and position stability so that the preceptors could look forward to having students in positions on practically a year-round basis.

4. To afford some element of guidance or control when needed in order to assure placement of a student in a professional growth position.

   You will undoubtedly note, as I did, that the Committee's points are actually further confirmation of recommendations 1, 2, 6(2), and 7, which appear in the 1960 COSTEP Study spearheaded by Dr. Wilton Fisher and his staff. The Committee will appreciate your careful study of this matter. If you should wish any further information from the COSTEP Committee or if we can assist in any way, please let me know.

Orientation Programs:

NIH Orientation (Compass) Course

In 1962 four courses were attended by a total of 1184 NIH employees. When there was sufficient interest a Question and Answer period for Commissioned Officers (primarily for new C.O.'s but also open to veteran officers) was held as an integral part of each course. Representatives from PHS-DCOP, NIH CO Unit, and staff of this Branch served as resource people for these meetings. A number of administrative personnel interested in rules and regulations pertaining to the Corps also attended.

The course, which has been presented 63 times, is modified frequently to meet changing needs.

PHS Senior Level Orientation Course

The NIH segment (1 day of a 5-day program for C.O.'s and GS-9 and above nominated by their respective Bureaus) was presented on February 27, May 22, and November 6.

PHS Orientation for New Employees

Approximately 1/2 day of this 2-day program is spent at NIH. Following a general orientation and tour of the Clinical Center, conducted by the Special Events Section, the group is addressed by the Chief of Clinical and Professional Education or a senior staff member regarding the overall mission of this Bureau. Three such sessions were held in 1962; the average attendance for each session was 45.

Special Orientations

| Date | Program | Attendance |
|---|---|---|
| *2/21/62 | Program for Freshman Class, George Washington Medical School | 15 |
| 3/20/62 | Biological Warfare Program | 33 |
| 3/21/62 | Meeting for Commissioned Officers Planning to Inactivate in July | 65 |
| *4/6/62 | Laboratory Visits for Students from Foxcroft School | 25 |
| *4/23/62 | American Physicists Society--Wives of Members | 100 |
| *6/14/62 | Program for Staff Members of Department of Preventive Medicine, Makerere University, Kampala, Uganda | 2 |

| Date | Program | Attendance |
|---|---|---|
| 6/25/62 | High School Science Students--N.S.F.--American University Summer Science Research Program | 6 |
| 6/26/62 | COSTEP and Civil Service Summer Employees | 124 |
| 6/27/62 | High School Science Teachers--N.S.F.--American University Summer Institute | 18 |
| 7/10/62 | Commissioned Officers Reporting to NIH (Primarily for physicians with patient care responsibilities) | 107 |
| 8/8/62 | Question & Answer Period for Commissioned Officers | 43 |
| 8/8/62 | Advanced Science Students from Fairfax High School | 20 |
| 9/13/62 | Grants Associates | 3 |
| *11/21/62 | Program for Graduate Students of the Medical College of Virginia | 20 |

*In cooperation with Special Events Section

High School Science Teachers Chemistry-Physics Institute:

This eight week program for high school teachers of science, sponsored by American University through a grant made by the National Science Foundation, was conducted for the seventh year in 1962. Eighteen teachers from eight states, the District of Columbia, and Canada reported to NIH on June 28. The following NIH Institutes and Divisions participated in the program: NCI, NHI, NIAMD, NIAID, NIDR, NIMH, DRS. The teachers worked in NIH laboratories (on a non-pay basis) from 10:00 a.m. to 5:00 p.m. every Wednesday, Thursday and Friday. Evaluation of the program by both the teachers and the preceptors was favorable.

Science Research Program for High School Students:

This program per se came into being in 1961 under the sponsorship of the Joint Board of Science Education of the Washington Academy of Sciences and the District of Columbia Council of Engineering and Architectural Societies. The program was supported by a grant from the National Science Foundation. The general purpose of the program is to provide students of high ability with educational experiences in the sciences and mathematics - not normally available in high school courses - in order to facilitate their scholarly development.

Six students worked at NIH (full work days) for approximately eight weeks beginning June 25. They were paid $10 per week expense money from the NSF grant. Free selection by scientists resulted in the following distribution: NIAID-1, NIMH-1, NIAMD-2, NCI-2. Both preceptors and students were extremely favorable in their evaluation of the program. The Associate Director of the

program (responsible for day to day supervision--Physics and Chemistry teacher at the Sidwell Friends School) reported in her analysis of student's evaluation of the summer experience--"All students spoke of clearer understandings of what scientists do and how they work. Some students mentioned previously false, now corrected ideas about scientists and research. For most students ideas that had been vague became precise and clear." The participating scientists indicated that they were in favor of continuing the program next summer.

From 184 applicants, an approved panel of 86 students was established. Forty-eight students were placed as follows:

| | |
|---|---|
| U. S. Department of Agriculture | |
| Plant Industry Station | 2 |
| Dairy Products Laboratory | 1 |
| Bureau of Entomology | 2 |
| The American University, Chemistry Department | 6 |
| Georgetown University, The College Observatory | 4 |
| Melpar, Inc. | 4 |
| Goddard Space Flight Center, N.A.S.A. | 2 |
| Naval Medical Research Institute | 1 |
| National Bureau of Standards | 3 |
| National Institutes of Health | 6 |
| U. S. Geological Survey | 2 |
| U. S. Army Engineers, Division of Basic Research, Fort Belvoir | 1 |
| Walter Reed Army Institute of Research | 14 |
| Total | 48 |

Some appreciation of the national import may be gained from the fact that 7,500 superior secondary-school students were provided with the opportunity to obtain tuition-free science training during the summer of 1962. This was accomplished through some 151 cooperating colleges, universities, and research organizations.

Summer Fellowships in Medical Research for High School Students:

These fellowships were sponsored by the Montgomery County Tuberculosis and Heart Association, Montgomery County Board of Education, National Naval Medical Center, Montgomery County Health Department, and the National Heart Institute, NIH. The purpose was to attract capable, inquiring young minds to the medical profession by providing opportunities for students to learn about and participate in research programs now in progress. Seminars were presented on five Saturday mornings from 10:00 a.m. to 12:00 noon in the 14th Floor Assembly Hall. Approximately 360 high school students (16 years of age) drawn from Montgomery County attended each session. Several $200 scholarships provided by the Montgomery County Tuberculosis and Heart Association were awarded on the basis of competitive examinations. Concurrent with the awarding of the scholarships was the opportunity to work in a research laboratory of NNMC or NHI. Two students were placed at the Navy installation and five in laboratories of the National Heart Institute.

The relationship of this Branch to the program was primarily effected through the Deputy Chief's serving on the governing Research Fellowship Committee. Plans are well underway to conduct another series of seminars in 1963.

Television Section:

General: 1962 has been a period during which the television activity has been intentionally restrained in order to retrain personnel and rearrange the television system in the Clinical Center in preparation for the opening of the new Surgical Wing, and for the addition of video tape facilities. Despite these intentions, the actual use of television increased--thus placing a heavy burden on our limited staff. By the end of the year, the video tape machine had been ordered and the delivery date in February seemed assured. This was a delay of six months on the basis of our work schedule for the year. The training for personnel to operate this equipment has also been necessarily delayed. The program will, therefore, enter 1963 somewhat behind the original schedule.

Some of the highlights of the work done during the year are reported below:

Research: The demands of the program areas upon the staff have somewhat reduced the research activities for this period. Some interesting new developments have been explored. In addition to the several well-established research activities, the following new developments have occurred.

Vidicon Opthalmoscope - New vidicon camera tubes are now available with sensitivity 3 to 5 times that of older tubes. These new tubes are being investigated with respect to their increased sensitivity and their wider spectral response, especially in the near-infra-red region.

Observations of Micro-circulation - Magnesium oxide target image orthicon tubes, with their increased sensitivity and resistance to target fatigue, have helped overcome some of the problems of low light-level observation. The mechanical construction of the sequential illuminator is being refined to prevent color fringing.

Black and White Opthalmoscope - Equipment modifications are in progress to illuminate the eye with infra-red light and to use an infra-red sensitive image orthicon tube developed by G. E. for observation. It is hoped that this will aid in the detection of regions of increased vascularity in the retina (diabetic retinitis).

Computer Applications - Some preliminary explorations have been made with Dr. Arnold Pratt and Mr. White, of his laboratory, regarding the possibility of computer analysis of television signals. The final objective of any undertaking of this sort would be the computer analysis and comparison of curves derived for physiological sources to determine their clinical and prognostic importance in the patient. It is the thought that if this can be done in real time, early premonitory signs of such phenomena as shock might be discovered in time to guide the therapy of the patient. This program seems to us practical in the present state of the art, but so expensive that further evidence supporting its value in clinical medicine will be required before it can

be undertaken.

Brain Surgery - Attempts to visualize the choroid plesus in humans and large primates have been planned but delayed due to difficulties in obtaining delivery of the necessary instruments from England. Hopefully the equipment will be delivered sometime in the near future.

Development: Work on the design of a new minaturized color camera for use in the new Surgical Wing has been sporadic throughout the year. Two novel approaches to this problem have been explored to the point where the design and operating difficulties have been identified. These are not sufficently severe to be entirely discouraging, but are great enough to give cause for a careful review of other possible schemes. We are therefore currently reexamining a completely engineered system which may prove feasible in view of some recent developments in television camera tubes. The electronics for initial tests of this system have been built and tests are scheduled for January and February of 1963.

Television Programming Operations:

The demand for television services for purposes of education and for dissemination of scientific information continued to exceed the manpower resources of the Unit. The manpower shortage coupled with the logistical difficulties of recording via WRAMS, plus the pending arrival of our own tape machine made an all-out programming effort impractical. Nevertheless, there was a considerable increase in activity over 1961. For example, the reruns of video tapes and kinescopes increased 2 1/2 times. Special programs and services here at NIH were double the 1961 level.

It is worthy of note that the clinical staffs of both NHI and NIAID recognized the value and flexibility that video tape offered for the purpose of recording relatively fleeting manifestations in their patients; brief recordings were made on Myxedema (NHI) and Blastomycosis (NIAID). In addition the tape on "Present Status of Cancer Chemotherapy" was televised over New York City's Educational TV Channel 31. Also video tapes have been made available on a loan basis to Dr. Hilmon Castle, Director, Division of Graduate and Postgraduate Medical Education, College of Medicine, University of Utah, and to Dr. Max Michael, Jr., Executive Director, Jacksonville Hospitals' Education Program, Inc., Jacksonville, Florida. It is definitely envisioned that traffic in the lending of video tapes will continue to increase.

The Inter-Med Network, as well as WETA-TV, is also being utilized to promote interest and attendance in our evening Combined Clinical Staff Meeting, evening graduate courses, and other professional programs of interest to scientific personnel in the area.

PROGRAMS PRESENTED DURING 1962:

| | |
|---|---|
| January 25 | "Medical Genetics." Combined Clinical Staff Conference - NIH. Dr. Joseph Bunim and staff - NIAMD. On Inter-Med Television Network (a repeat). |

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| February 9 | "Driving and Drinking." For NIMH staff preview. |
| February 27 | "Mechanisms of Drug Action on the Central Nervous System." On Inter-Med Television Network (a repeat). |
| February 27 | "Muscle Disease and Electron Microscopy." On Inter-Med Television Network for PHS Senior Level Orientation. |
| March 5-9 | "Present Status of Cancer Chemotherapy." Combined Clinical Staff Conference - NIH, presented as one of a series on Inter-Service Professional Program, "Medicine 1962" - Dr. N. Berlin and staff - NCI. On Inter-Med Television Network (5 showings). |
| March 19 | "Current Day Concepts of Lupus Erythematosis." Video-taped for later presentation as one of a series on Inter-Service Professional Program "Medicine 1962". |
| March 26 | "Current Day Concepts of Lupus Erythematosis." Playback for preview by professional staff making presentation. |
| March 26 | "Myxedema Case." Recorded (video tape) for clinical record and study purposes per request of Dr. Donald Frederickson, NHI. |
| March 26 | "Blastomycosis." Recorded (video tape) for clinical record and study purposes per request of Dr. John Utz, NIAID. |
| April 2-6 | "Techniques in Immunology and Experimental Hypersensitivity" (National Institute of Allergy and Infectious Disease kinescope). Presented 5 times over Inter-Med. Television Network as one of a series on Inter-Service Professional Program, "Medicine 1962." |
| April 3 | "Myxedema" and "Blastomycosis." Video-tape playback for preview by professional staff concerned. |
| April 9 | Motion Picture Academy Awards program from commercial network and projected large screen. Viewed by 200 Clinical Center patients. |
| April 23 | "Mechanisms of Drug Action on the Central Nervous System." Playback for general information to lay and professional personnel attending American Physicists Meeting. Program per request of NIH Special Events Section. Audience - 100. |
| April 25 | "Medical Asepsis." Recorded on video tape for NIAID Clinical Nursing Conference. Produced by NIAID and Clinical Center Nursing Research Group assisted by Clinical and Professional Education Branch. |
| May 2 | "Maria Piers" (video tape on mental health). Playback for preview by NIMH Public Information Staff. |

| | |
|---|---|
| May 3 | Colonel John Glenn and Russian Astronaut Titov - National Academy of Science Program. Assistance with television coverage per request from State Department to NIH. |
| May 15 | Council on Medical Television - Fourth Annual Meeting - NIH |
| | Congressman John E. Fogarty - Keynote speaker - presented via video tape. |
| | Mr. Boisffeuillet Jones - HEW - Keynote speaker - presented via video tape. |
| | "New Techniques in Endoscopy" (Brian Stanford, MRCS - London). Certain techniques shown via video tape. |
| | "An Experiment in Teaching Techniques" (Heart Catherization - line selection, etc.). Dr. Murray Brown, CC:NIH and Dr. Paul Abert, NHI. Technique shown via video tape. |
| May 22 | "Mechanisms of Drug Action on the Central Nervous System." Playback for PHS Senior Level Orientation. |
| May 23 | "Medical Asepsis" (video tape). On Inter-Med Television Network (a repeat). |
| May 23 | "Hyperglyceridemia." Dr. Donald Frederickson and staff - NHI. Video-tape recorded for Inter-Service Professional Program, "Medicine 1962." |
| June 11 | "Medical Asepsis." Video tape playback for NIH House Staff (a repeat). |
| June 11-15 | "Current Day Concepts of Lupus Erythematosis" (video tape). 5 showings on Inter-Med Television Network as one of a series on Inter-Service Professional Program, "Medicine 1962." |
| June 21 | "Medical Asepsis." Playback for NIH House Staff - 4 separate presentations on Inter-Med Television Network (repeats). |
| June 26 | Excerpts of "Radioactive Isotopes" and "Mechanisms of Drug Action on the Central Nervous System" (video tape). Playback for COSTEP Orientation. |
| July 16 | "Introduction to Research Methods." Dr. G. Burroughs Mider - NIH. On Inter-Med TV Network (repeat). |
| July 18 | "Frontiers for Future Research." Dr. H. L. Stewart - NCI. On Inter Med TV Network (repeat). |

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|---|---|
| July 24 | "Mechanisms of Drug Action on the Central Nervous System." Playback for orientation of science students from Haverford Senior High School, Pennsylvania. |
| August 7 | "Hyperglyceridemia." Playback for preview by NHI public information staff. |
| August 13 | "Supervisory Course for Dietitians." From Inter-Med TV Network per request of Employee Development Section - NIH Audience - 17. |
| August 16 | "Supervisory Course for Dietitians" (Same as above) Audience - 19. |
| September 10-14 | "Hyperglyceridemia." 5 showings on Inter-Med TV Network. |
| September 28 | "Hyperglyceridemia." Playback for American College of Cardiology. |
| October 6 | United Cerebral Palsy Associations' Eastern Regional Conference. Staff and equipment to assist with miniature telethon per request of the Director, NINDB. |
| October 15 - December 31 | "Human Adjustment in Hospital Setting." 27 sessions (live) of Psychology Course (corpsman or ward assistant level - orig. NNMC). Received from Inter Med TV Network. Will complete February 1963. |
| October 30 | "Hyperglyceridemia." On Inter-Med TV Network (repeat). |
| November 6 | "Mechanism of Drug Action on the Central Nervous System." Video tape playback for PHS Senior Level Orientation. Audience - 60. |
| December 3 | "Antibiotic Control of Hospital Cross Infections." Video taped (live). This presentation by Dr. Hans Ericsson - Visiting Scientist. Program presented under sponsorship of Clinical Pathology Department, CC. |
| December 11 | "Antibiotic Control of Hospital Cross Infections." Video-tape playback for audience unable to attend December 3. |
| December 14 | "Mechanisms of Drug Action on the Central Nervous System." Video-tape playback for orientation of students from the Philadelphia College of Pharmacy & Sciences. Audience - 40. |

KINESCOPES
(Some examples of their use)

1. "Laboratory of Biochemical Pharmacology and Childrens' Leukemia Unit." (Drs. Goldin & Frei of NCI)

| | |
|---|---|
| May 24 | Fairfax High School group. U. of Virginia Science Program (Used by Special Events Section, CC). |
| December 10 | Shenandoah Valley Academy High School Students (Used by Special Events Section, CC). |

2. "Medical Asepsis." In October the original video-tape version was transferred to film. The Nursing Research Unit of the Clinical Center, in the remaining months of 1962, honored the following loan requests:

| | |
|---|---|
| November 19 | Nursing Assistant Class for Allergy & Infectious Diseases Nursing Service, Clinical Center, NIH. |
| November 20 | Nursing Assistant Class (Advanced course for male nursing assistants) for Allergy & Infectious Diseases Nursing Service, Clinical Center, NIH. |
| December 18 | Nursing Assistant Class for Education & Training Branch, Nursing Department, Clinical Center, NIH. |

3. "Tour of Clinical Center Pharmacy."

| | |
|---|---|
| June and November | University of California - 4 showings to students, School of Pharmacy & Pharmacy Staff of Hospital. Total number viewing about 400. |
| | University of Wisconsin - 1 showing to Senior Class of Pharmacy School. |

Miscellaneous:

During the year various organizational units of the Public Health Service were asked for their recommendations regarding the role of the Public Health Service in the field of biomedical communications. These recommendations were to include specific program proposals. The field is one in which this office has had a long-term interest. A comprehensive report on our activities, together with action proposals for both NIH and the Service at large, was prepared and submitted for review.

The following tabulation is a representation of the Medical Schools from which candidates applied and from which we appointed candidates.

| SCHOOL | APPLICANTS | APPOINTEES |
|---|---|---|
| Medical College of Alabama | 2 | 2 |
| Univ. California School of Medicine, L.A. | 2 | 2 |
| Stanford University School of Medicine | 7 | 2 |
| Univ. of California School of Medicine | 2 | |
| Univ. of Southern California | 1 | |
| Yale Univ. School of Medicine | 9 | 4 |
| Georgetown Univ. School of Medicine | 1 | 1 |
| George Washington Univ. School of Medicine | 5 | |
| Howard Univ. College of Medicine | 1 | |
| Univ. of Miami School of Medicine | 1 | |
| University of Florida | 2 | 1 |
| Emory Univ. School of Medicine | 3 | 2 |
| Northwestern Univ. Medical School | 3 | 2 |
| Stritch School of Medicine | 5 | 1 |
| Univ. of Chicago School of Medicine | 6 | 4 |
| Univ. of Illinois College of Medicine | 1 | |
| Indiana Univ. School of Medicine | 1 | 1 |
| State Univ. of Iowa College of Medicine | 2 | 1 |
| Univ. of Kansas School of Medicine | 3 | 1 |
| Univ. of Louisville School of Medicine | 2 | 2 |
| Johns Hopkins Univ. School of Medicine | 15 | 6 |
| Univ. of Maryland School of Medicine | 2 | |
| Boston Univ. School of Medicine | 1 | 1 |
| Harvard Medical School | 33 | 24 |
| Tufts Univ. School of Medicine | 4 | |
| Univ. of Michigan Medical School | 2 | 2 |
| Wayne State Univ. College of Medicine | 1 | |
| Univ. of Minnesota Medical School | 2 | 2 |
| St. Louis Univ. School of Medicine | 1 | 1 |
| Washington Univ. School of Medicine | 8 | 7 |
| Albany Medical College | 1 | |
| Univ. of Buffalo School of Medicine | 4 | 3 |
| Albert Einstein College of Medicine | 5 | 4 |
| Columbia Univ. College of P&S | 27 | 13 |
| Cornell Univ. Medical College | 6 | 3 |
| NYU College of Medicine | 21 | 9 |
| State Univ. of New York - Downstate | 7 | 1 |
| Univ. of Rochester School of Medicine | 8 | 7 |
| Duke Univ. School of Medicine | 9 | 5 |
| Bowman Gray School of Medicine | 2 | 1 |
| Univ. of Cincinnati College of Medicine | 1 | 1 |
| Western Reserve Univ. School of Medicine | 1 | 1 |
| Univ. of Oklahoma School of Medicine | 1 | 1 |
| Hahnemann Medical College | 2 | |
| Jefferson Medical College | 4 | 1 |

| SCHOOL | APPLICANTS | APPOINTEES |
|---|---|---|
| Univ. of Pennsylvania School of Medicine | 10 | 6 |
| Univ. of Pittsburgh School of Medicine | 1 | |
| Vanderbilt Univ. School of Medicine | 4 | 2 |
| Baylor Univ. College of Medicine | 4 | 3 |
| Univ. of Utah School of Medicine | 1 | |
| Univ. of Vermont College of Medicine | 2 | |
| Univ. of Virginia School of Medicine | 1 | |
| Medical College of Virginia | 1 | 1 |
| Queen's University | 1 | |

The following tabulation is a representation of Hospitals at which candidates and appointees served their internships and residencies.

| | INTERNSHIP | | RESIDENCY | |
|---|---|---|---|---|
| HOSPITAL | APPLIED | APPOINTED | APPLIED | APPOINTED |
| Univ. of Alabama Hospital | 1 | 1 | 1 | 1 |
| Children's Hospital, L.A. | 1 | | 1 | 3 |
| Kaiser Foundation Hospital | 2 | 1 | | |
| Los Angeles County General | 1 | | | |
| Palo Alto-Stanford Hospitals | 2 | 2 | 1 | 2 |
| San Francisco General Hospital | 1 | | | |
| Oakland V.A. Hospital | | | 1 | |
| Univ. of California Hospitals, L.A. | 4 | 2 | 1 | 2 |
| Univ. of California Hospitals, S.F. | 1 | 1 | | |
| Wadsworth V.A. Hospital, L.A. | 1 | 1 | | |
| Univ. of Colorado Hospital | 2 | 2 | | |
| Grace-New Haven Hospital | 11 | 9 | 1 | 5 |
| Greenwich Hospital | 1 | 1 | | |
| West Haven V.A. Hospital | | | | 1 |
| D.C. General Hospital | 1 | | 1 | |
| Georgetown University Hospital | 2 | | | |
| Univ. of Miami Hospital | | | 1 | 1 |
| U.S. Naval Hospital | | | 1 | |
| Cook County Hospital | | | 1 | |
| Evanston Hospital | 1 | | | |
| Univ. of Chicago Clinics | 6 | 3 | 4 | 3 |
| Univ. of Illinois R&E Hospital | 2 | 1 | | |
| Veterans Administration Hospital | | | | 1 |
| Michael Reese Hospital | 1 | | | |
| Passavant Memorial Hospital | 1 | 1 | | |
| Univ. of Iowa Hospital | 1 | 1 | | |
| Univ. of Kansas Medical Center | | | | 1 |
| Johns Hopkins Hospital | 15 | 11 | 1 | 8 |
| St. Agnes Hospital | 1 | | | |
| Beth Israel, Boston | 1 | | | |
| Boston City Hospital | 11 | 8 | | 7 |
| Veterans Administration Hospital | | | 2 | |
| Massachusetts General Hospital | 9 | 8 | 5 | 10 |
| Mass. Mental Health Center | | | 2 | 3 |
| New England Center Hospital | 2 | | | |
| Peter Bent Brigham | 7 | 6 | 1 | 6 |

| HOSPITAL | INTERNSHIP APPLIED | INTERNSHIP APPOINTED | RESIDENCY APPLIED | RESIDENCY APPOINTED |
|---|---|---|---|---|
| Univ. of Michigan Hospital | 1 | 1 | | 2 |
| Univ. of Minnesota Hospital | 4 | 4 | | 1 |
| Minneapolis General Hospital | 1 | | | |
| Barnes Hospital | 10 | 7 | 3 | 12 |
| Bronx Municipal Hospital Center | 4 | 1 | | 3 |
| Buffalo General | 1 | 1 | | |
| Bellevue Hospital | 16 | 6 | 4 | 4 |
| Lenox Hill Hospital | 1 | 1 | | |
| Kings County | 4 | 2 | 1 | 1 |
| Presbyterian Hospital | 12 | 7 | 4 | 9 |
| Maimonides Hospital | 1 | 1 | 2 | 1 |
| Montefiore Hospital | 3 | 1 | | |
| Jewish Hospital of Brooklyn | 1 | 1 | 1 | 1 |
| Mount Sinai Hospital | 3 | 3 | 1 | 2 |
| New York Hospital | 10 | 9 | 4 | 4 |
| New York State Psychiatric Hosp. | 1 | 1 | | 1 |
| Roosevelt Hospital | 1 | | | |
| St. Luke's | 1 | | | |
| Strong Memorial Hospital | 9 | 5 | 3 | 5 |
| Veterans Administration Hospital | | | 1 | |
| St. Vincent's Hospital of the City of New York | 1 | | | |
| Duke University Hospital | 9 | 5 | 1 | 6 |
| North Carolina Memorial | 3 | 1 | | 1 |
| Cincinnati General Hospital | 1 | | 1 | |
| Cleveland Clinic Hospital | 1 | 1 | 1 | 1 |
| Cleveland Metropolitan General Hosp. | | | 1 | |
| Univ. Hospitals, Western Reserve | 4 | 2 | 1 | 2 |
| University of Oklahoma Hospital | | | 1 | |
| Jefferson Hospital | 1 | 1 | | 1 |
| Institute of Pennsylvania Hosp. | | | | 1 |
| Philadelphia General | 1 | 1 | 1 | |
| Univ. of Pennsylvania Hospital | 5 | 4 | | 3 |
| Presbyterian Hosp., Philadelphia | 1 | 1 | | |
| Jefferson Davis Hospital | 1 | 1 | 1 | |
| Parkland Memorial Hospital | 1 | 1 | | |
| Vanderbilt University Hospital | | | 1 | |
| City of Memphis Hospitals | 1 | 1 | | |
| Univ. of Utah Hospital | 3 | 1 | | |
| Mary Fletcher | | | 1 | |
| Medical College of Virginia Hospital | 1 | | | |
| Univ. of Washington Affiliated Hospitals | 2 | | 1 | 1 |
| Milwaukee County Hospital | 1 | | | |
| Univ. of Wisconsin Hospital | 2 | 1 | | |
| Kingston General Hospital | 1 | | | |
| Montreal General Hospital | 1 | 1 | 1 | 1 |

SCHEDULE CLINICAL & RESEARCH ASSOCIATE MATCHING PROGRAM
For Calendar Year 1963
(Appointments Beginning July, 1965)

| | |
|---|---|
| January & February | Preparation of Packet Materials and Applications |
| March April May June July August | Receipt & Processing of Applications |
| Sept. 6 | Final date for sending applications to candidates |
| Sept. 15 | Deadline for receipt of completed applications |
| Sept. 23 to Oct. 4 | Review of applications by Institutes |
| Oct. 7 to 25 | Interviews |
| Oct. 25 to 30 | Selection of appointees by Institutes |
| Oct. 31 | Matching |
| Nov. 1 | Institutes notified of results of matching |
| Nov. 4 | Inter-Institute negotiations and final approval of matching results |
| Nov. 5 | Notification of successful candidates for confirmation of appointment |
| Nov. 6 to 8 | Notification of all candidates by letter; Release of unsuccessful candidates for recruiting by other programs; Notification of Division of Personnel, OSG, regarding action taken on candidates |
| Nov. 12 | Mailing of CORD forms; Follow up on candidates |

## CLINICAL AND RESEARCH ASSOCIATE "MATCHING PROGRAM"

The National Institutes of Health Clinical and Research Associate "Matching Program" came into being to meet a variety of problems and needs. Its most important elements are:

1. It provides an orderly, systematic method whereby the Institutes can appoint and defer future junior staff members without inter-Institute conflicts and with the assurance that our relations with young professional people will be on a dignified, fair, competitive basis.

2. It provides a method whereby candidates for opportunities at NIH can be actively recruited for other positions in the Public Health Service in the event they do not qualify or are not selected for appointment here.

3. It is designed to minimize unproductive processing of applicants and the consequent waste of NIH and Division of Commissioned Officer Personnel staff time.

## PROCEDURES FOR OPERATION OF THE PROGRAM

I. Inquires

Inquiries reach this office from many sources: These include Office of the Director, NIH; Director, Clinical Center; Office of the Surgeon General; Clinical Directors; Scientific Directors; Laboratory Chiefs.

II. Actions Taken On Inquiries

A. Candidates in which NIH is not interested are sent the following:

1. Letter outlining requirements for appointment at NIH and stating candidate does not qualify on one or more points.

2. Letter discouraging applicant who minimally qualifies but will not successfully compete (candidate is advised of other opportunities in the PHS).

B. Candidates of definite interest to NIH:

1. Inquiries may be answered directly by Clinical or Scientific Directors if they so desire, or they may be forwarded to this office for reply.

2. If inquiries are answered by the Institutes it is requested that a copy be sent to this office, so that a file card may be established. As candidates may apply to several Institutes simultaneously the above is very important to avoid duplication and to maintain continuity.

3. All "Matching Program Packets" are mailed by this office rather than the Institutes.

4. A file card is established for every inquiry received.

5. All candidates for the Clinical & Research Associate programs will be required to complete the various information sheets contained in the Packet.

III. Actions Taken On Information Sheets (applications) Received

A. Upon receipt of the completed information sheets a file is established for each candidate.

B. When the file is complete, i.e., includes three letters of reference and grade transcripts, the material is photocopied and sent to each of the Institutes to which the candidate has indicated he would like to apply. A copy of the file is also sent to the Division of Commissioned Officer Personnel, PHS.

C. Attached to each candidate's file is a route slip asking for your action on the candidate; i.e., reject or arrange interview. This route slip when marked with your action is returned to this office.

D. An additional letter of reference will be requested from the "Chief of Service" of the candidate if he has not already submitted one.

E. Photographs and grade transcripts will not be duplicated with the files, but will be maintained in a master file in this office. They will be sent to the Institutes on loan upon request.

F. Final date for sending applications to candidates is September 6, 1963.

G. Deadline for receipt of completed applications is September 15, 1963.

IV. Interviews

A. All interviews are by invitation only. By direction of the Clinical and Scientific Directors all interviews are to be arranged by this office.

B. All candidates will be notified by this office of the date of their interviews and the Institutes who wish to interview them.

C. All interviews will be held during the 3-week period October 7 thru October 25, 1963.

D. All persons in the Institutes who will be interviewing candidates will be asked to inform this office of the days of the week and the hours when they will be available during the above 3-week interview period.

F. Each person interviewing candidates will be sent a weekly interview schedule marked off in half-hour blocks for each day. As interviews are arranged he will receive a memorandum giving candidate's name, date of interview and time. Please be sure that this information is put on the weekly schedule.

G. Each candidate will be given a detailed interview schedule listing time, Institute, Interviewer, and location of interview, when he reports to this office on the day of his interview.

H. If you desire to have a candidate interviewed by another person within your Institute, please check his schedule before making arrangements.

I. If you think a candidate should be interviewed by a person or persons in another Institute please check with Miss Long before making these arrangements. This is necessary because: the candidate may have applied to this Institute; his file will have been reviewed by persons in this Institute; if the Institute is not listed on his interview schedule it means they are not interested in a person with his background and qualifications. If you still feel that the candidate should be seen please make arrangements thru the Clinical or Scientific Director of the Institute.

J. No candidate is to be offered a position at the time of interviews.

K. When the candidate has completed his interviews he will fill out a rank order sheet listing Institute and Laboratory or Section, if this is necessary, within the Institute. This is a confidential statement.

V. Selection, Matching and Notification of Appointees

A. By October 30, Institutes will submit to this office, in writing, a rank order list of the candidates they wish to appoint. This list should contain at least twice the number of candidates needed for your positions.

B. The rank order lists of the Institutes will be matched with the candidates' rank order sheets.

C. On November 1, Institutes will be notified by telephone of the results of the matching.

D. If an Institute has chosen a candidate for appointment and the candidate has not listed the Institute, or Section within an Institute, on his rank order list and has not been selected by one he did list, the Institutes will be given this information and two courses of action may be taken:

1. The Institute can select another appointee.
2. The Institute may offer the position to the candidate to

see if he is interested and will accept.

E. On November 5, the Institutes will, by telephone, offer their appointees the positions for which they were selected (subject to approval of their nomination for CORD deferment if this is involved) and ask for a verbal acceptance. As the Institutes wish, the telephone call may be followed up with a letter of appointment or not.

F. If an "appointment letter" is not to be written, at the time of the telephone call the Institutes should ask for a letter of acceptance from the candidate.

G. If an "appointment letter" is written, the acceptance letter can be requested at that time.

H. Two copies of the appointment and acceptance letter on each appointee must be sent to this office.

I. Rejection letters to all unsuccessful candidates will be mailed on November 8.

J. On November 12, applications for CORD Deferment will be mailed to all successful candidates.

January 11, 1963
Clinical & Professional Education

Calendar Year 1962

PUBLIC HEALTH SERVICE, NATIONAL INSTITUTES OF HEALTH

SUMMARY ANNUAL REPORT OF PROGRAM ACTIVITIES
CLINICAL CENTER
OFFICE OF THE DIRECTOR

DEPARTMENT OF SPIRITUAL MINISTRY

CC-09
Serial No.

## MISSION

In keeping with the Clinical Center's goal to bring the best that modern medicine and its ancillary services have to offer to the care and rehabilitation of the patients, it is recognized that the spiritual welfare of the patient is an important factor in the care of the sick. Meeting the spiritual needs of individual patients is the primary mission of the chaplains on the Clinical Center staff.

## PROTESTANT CHAPLAINS

Helping the patient as a person to find meaning and courage in the face of chronic illness and death is an individual matter. Consequently to be of help requires that the chaplains relate to the patients individually. This, in turn, is time-consuming. Because of the increased patient census in 1962, and with no proportionate increase in the chaplaincy staff, it was necessary for the Department of Spiritual Ministry to concentrate its services on the very sick and critically ill during the year. The following table reflects the distribution of the Protestant chaplains' time and work among the Institutes:

## DISTRIBUTION OF PROTESTANT PASTORAL LOAD

| INSTITUTE | TOTAL NO. OF PATIENTS | PERCENT SEEN | PASTORAL CONTACTS | CONTACTS TOT. POP. (PER MONTH PER PATIENT) |
|---|---|---|---|---|
| CANCER | | | | |
| 1961 | 1,536 | 44% | 8,940 | 5.8 |
| 1962 | 1,922 | 43% | 10,069 | 5.2 |
| HEART | | | | |
| 1961 | 1,344 | 40% | 4,512 | 3.4 |
| 1962 | 1,462 | 35% | 6,655 | 4.5 |
| NEUROLOGY | | | | |
| 1961 | 1,008 | 27% | 1,032 | 1.0 |
| 1962 | 1,057 | 22% | 1,473 | 1.4 |
| ARTHRITIS | | | | |
| 1961 | 816 | 13% | 168 | 0.2 |
| 1962 | 878 | 17% | 488 | 0.6 |
| INFECTIOUS | | | | |
| 1961 | 778 | 12% | 214 | 0.3 |
| 1962 | 765 | 14% | 280 | 0.4 |
| MENTAL | | | | |
| 1961 | 515 | 12% | 194 | 0.4 |
| 1962 | 646 | 14% | 316 | 0.5 |

Thus 87% of the Protestant chaplains' work during the year was on the nursing units of NCI (52%) and NHI (35%), where there are the most patients who have had major surgery and those who are seriously ill. NINDB was next (8%) due largely to its neurosurgery program. The time alloted to the nursing units of other Institutes was minimal: NIAMD (3%) and NIAID (1%). Work on the NIMH units (2%) during 1962 consisted principally of attending the families of children on NCI's 2-East nursing unit, so this 2% could be added to the NCI workload, making it 54%. Therefore about 90% of the Protestant chaplains' time was spent with patients, and their families, of the National Cancer Institute and the National Heart Institute.

It is recognized, however, that many patients of the four other Institutes also needed spiritual care, which we would have liked to be able to provide. Persons with chronic and/or progressive neurological, eye, arthritic, metabolic and infectious diseases have to find meaning and courage to live with their crippling conditions. Although their spiritual crises are not dramatic, they can be living lives of "quiet desperation." To minister to the individual spiritual needs of all these patients would require more Protestant chaplains. So additional staff is considered to be the most urgent need of the Department of Spiritual Ministry.

AVERAGE MONTHLY PASTORAL CARE LOAD 1962

| TOTAL NO. PATIENTS | PATIENTS SEEN | NOT SEEN | % SEEN | PASTORAL CONTACTS | SACRAMENTS | CONTACTS PER PT. SEEN | CONTACTS PER TOT. POP. |
|---|---|---|---|---|---|---|---|
| PROTESTANT | | | | | | | |
| 561 | 161 | 383 | 29% | 1596 | 10 | 9.9 | 2.8 |
| CATHOLIC | | | | | | | |
| 142.3 | 142 | .3 | 99.8% | 515 | 651 | 8.2 | 8.1 |
| JEWISH | | | | | | | |
| 46.6 | 38.7 | 7.9 | 83% | 49 | - | 1.3 | 1.0 |

Research Project In Pastoral Care

A survey of the "Pastoral Needs and Problems Encountered by Clinical Center Patients and Their Attending Families" which was undertaken last year was discontinued in 1962 because of the Department's heavy workload. The primary aim of this survey was to aid the Department of Spiritual Ministry in determining what is a quality ministry in the Clinical Center.

CATHOLIC CHAPLAIN

I. The religious needs of the Catholic patients at the Clinical Center are provided for by one Catholic Chaplain on full-time duty.

Services provided by the Catholic Chaplain at the Clinical Center are summarized below in a general manner, followed by a detailed summation of daily activities for the calendar year 1962.

The Catholic patient census continues to maintain an average of 20% of the total patient census, which amounts to an average of 75 to 80 patients. This number of patients requires the Catholic Chaplain to spend 60 hours a week to fulfill his duties effectively.

Personnel continue to make demands on the chaplain's time for personal appointments, but these demands must necessarily be subordinated to the needs of the patients. As a result, only about 50% of the personnel requests are satisfied. The Catholic chaplain continues to refer these persons to their own clergymen in the community whenever possible.

There are no new projects of special interest to report. The Catholic chaplain's time continues to be consumed in the performance of the duties summarized below.

II. General Summary of Services Provided by the Catholic Chaplain

1. Divine Worship Service (Mass) for patients, relatives, and N.I.H. personnel daily. (Two services on all Sundays and Holydays).
2. Special religious services daily during months of May and October.
3. Special religious services during seasons of Advent and Lent.
4. Sacraments administered to patients daily.
5. All patients visited each Saturday for confession.
6. Seriously ill patients visited every day.
7. Weekly consultations with families of patients.
8. All patients visited on regular schedule for counseling.
9. Consultations with Medical, Nursing and Social Service Staffs regarding welfare and rehabilitation of patients.
10. Participation in orientation program for all new Nursing and Social Service personnel.
11. Participation in programs of the Patient Activities Section.
12. Participation in the Gray Lady Training Program.
13. Consultation with members of the N.I.H. staff on request.
14. On call for emergency service 24 hours a day.

JEWISH CHAPLAIN

Jewish chaplaincy service is on a contract basis providing for 12 visits per month. Rabbi Joseph M. Brandriss has been serving as Jewish Chaplain since November 27, 1956. Approximately 6% of the patients admitted to the Clinical Center are Jewish.

Summary of Service

Sabbath services on Fridays and special services for the various major and minor Holidays of the Jewish calendar, including some socials after the celebrations.

Visits to patients.

Counseling of patients and families.

Religious education when requested and/or needed.

On call for emergency service 24 hours a day.

Attachment B

# REPORT OF CHAPLAIN'S ACTIVITIES

Clinical Center
National Institutes of Health

FOR PERIOD: December 1961 through November 1962.

| I. CHAPEL SERVICES | | CATHOLIC | PROTESTANT | JEWISH |
|---|---|---|---|---|
| Services | | 380 | 55 | 48 |
| Attendance | | 10442 | 3941 | 258 |
| Sermons | | 59 | 51 | 48 |
| Devotions | | 54 | | |
| Attendance | | 1756 | | |
| **II. ADMINISTRATION OF SACRAMENTS** | | | | |
| Holy Communion | | 380 | 88 | 0 |
| Chapel | | 4783 | 716 | |
| Bedside | | 6861 | 128 | |
| Confessions | | 806 | | |
| Chapel | | 67 | | |
| Bedside | | 739 | | |
| Baptisms | | 2 | 5 | |
| Confirmations | | 1 | | |
| Last Rites | | 71 | | |
| **III. PASTORAL MINISTRY** | | | | |
| Initial Interviews | | 638 | 1004 | 158 |
| Surgery | | 505 | 2270 | 17 |
| Seriously Ill | | 1276 | 3227 | 30 |
| Counseling | | 1190 | 3268 | 5 |
| Rounds | (1) | 4687 | 2311 | 324 |
| Relatives | | 651 | 6725 | 144 |
| Instructions | | 18 | | 1 |
| Deaths | | 54 | 141 | 13 |
| Funerals | | | 4 | |
| Post-Discharge | | 68 | 29 | |
| Wedding | | | 1 | |
| **IV. PATIENT REFERRALS** | | | | |
| Doctors | (2) | 282 | 75 | 7 |
| Nurses | (2) | 879 | 812 | 5 |
| Social Workers | | 55 | 173 | 4 |
| Family | | 342 | 79 | |
| Self | | 293 | 84 | |
| Clergy | | 46 | 21 | |
| Other | | 25 | 80 | |

(1) Catholic Rounds — Include a weekly contact with every patient while hearing confession.

(2) Catholic Referrals — Include individual Conferences with Staff, see V. Staff Relations, Conferences.

Report of Chaplain's Activities NIH, Clinical Center

| | | CATHOLIC | PROTESTANT | JEWISH |
|---|---|---|---|---|
| V. | STAFF RELATIONS | | | |
| | Conferences (3) | 41 | 4419 | |
| | Staff Meetings | 1 | 5 | |
| | Lectures, Etc. | 11 | 14 | |
| | Counseling | 329 | 70 | |
| VI. | COMMUNITY AND PROFESSIONAL RELATIONS | | | |
| | Addresses | 2 | 6 | |
| | Meetings | 1 | 20 | |
| | Worship | 5 | 5 | |
| | Sermons | | 3 | |
| | Ecclestiastical Conferences | 3 | 1 | |
| | Professional Conf. | 3 | 1 | |
| | Clergy Consultations | | 201 | |
| VII. | ADMINISTRATION | | | |
| | Correspondence | 159 | 227 | 20 |
| | Staff Meetings | 9 | 6 | |
| | Conferences | | 1165 | |
| | Planning (Hrs.) | 2 | 536 | |
| | Preparation & Study(Hrs.) | 85 | 439 | |
| | Records & Reports (Hrs.) | 55 | 138 | |
| VIII. | RESEARCH & TRAINING (Hrs.) | | | |
| | Planning | | 41½ | |
| | Recording | | 24 | |
| | Analyzing | | 53 | |
| | Reports | | 20 | |
| | Consultation | | 1 | |
| | Seminars, Courses, Lectures | | | |
| | Research Reading | | 27 | |
| IX. | OVERTIME (Hours) | 654 | 206 3/4 | |

(3) Catholic Conferences are included under IV. Referrals, Doctors, Nurses.

Respectfully submitted,

William R. Andrew
Supervisory Chaplain
The Clinical Center

3036
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ttachment A

FOR PERIOD:

December 1961-November 1962

## REPORT OF CHAPLAINS ACTIVITIES

SUMMARY BY INSTITUTE*

| | | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|---|
| | | | PATIENT ACTIVITY | | | * PASTORAL CONTACTS | | | |
| | | TOTAL NO. PATIENTS | PATIENTS SEEN | NOT SEEN | %SEEN (B ÷ A) | PASTORAL (Pt., Fam., Staff, etc.) | SACRA-MENTS | CONTACTS PER PATIENTS SEEN (E + F ÷ B) | CONTACTS PER TOTAL POP. (E + F ÷ A) |
| NCI | PROT. | 1922 | 835 | 1087 | 43% | 9973 | 96 | 12.0 | 5.2 |
| | CATH. | 421 | 421 | - | 100% | 2094 | 2699 | 11.4 | 11.4 |
| | JEW. | 110 | 93 | 17 | 85% | 126 | - | 1.4 | 1.2 |
| | TOTAL | 2453 | 1349 | 1104 | 55% | 12193 | 2795 | 11.1 | 6.1 |
| NIAID | PROT. | 765 | 111 | 654 | 14% | 274 | 6 | 2.5 | 0.4 |
| | CATH. | 216 | 216 | - | 100% | 497 | 783 | 5.9 | 5.9 |
| | JEW. | 50 | 39 | 11 | 78% | 49 | - | 1.3 | 1.0 |
| | TOTAL | 1031 | 366 | 665 | 36% | 820 | 789 | 4.4 | 1.5 |
| NIAMD | PROT. | 878 | 148 | 730 | 17% | 481 | 7 | 3.3 | 0.6 |
| | CATH. | 229 | 229 | - | 100% | 917 | 1043 | 8.5 | 8.5 |
| | JEW. | 72 | 52 | 20 | 72% | 55 | - | 1.0 | 0.7 |
| | TOTAL | 1179 | 429 | 750 | 36% | 1453 | 1050 | 6.0 | 2.1 |
| NHI | PROT. | 1462 | 517 | 945 | 35% | 6647 | 8 | 10.9 | 4.5 |
| | CATH. | 397 | 397 | - | 100% | 1379 | 1636 | 7.5 | 7.5 |
| | JEW. | 123 | 114 | 9 | 92% | 143 | - | 1.2 | 1.1 |
| | TOTAL | 1982 | 1028 | 954 | 52% | 8169 | 1644 | 9.7 | 5.0 |
| NINDB | PROT. | 1057 | 237 | 820 | 22% | 1469 | 4 | 6.2 | 1.4 |
| | CATH. | 320 | 320 | - | 100% | 1068 | 1621 | 8.4 | 8.4 |
| | JEW. | 107 | 103 | 4 | 42% | 143 | - | 1.4 | 1.3 |
| | TOTAL | 1484 | 660 | 824 | 45% | 2680 | 1625 | 6.5 | 3.0 |
| NIMH | PROT. | 646 | 88 | 558 | 14% | 316 | - | 3.6 | 0.5 |
| | CATH. | 125 | 121 | 4 | 97% | 229 | 35 | 2.2 | 2.2 |
| | JEW. | 98 | 64 | 34 | 65% | 70 | - | 1.0 | 0.7 |
| | TOTAL | 869 | 273 | 596 | 31% | 615 | 35 | 2.4 | 0.8 |
| TOTAL | PROT. | 6730 | 1936 | 4794 | 29% | 19160 | 120 | 9.9 | 2.8 |
| | CATH. | 1708 | 1704 | 4 | 99% | 6184 | 7817 | 8.2 | 8.1 |
| | JEW. | 560 | 465 | 95 | 83% | 589 | - | 1.3 | 1.0 |
| | TOTAL | 8998 | 4105 | 4893 | 46% | 25933 | 7937 | 8.3 | 3.7 |

*INCLUDES PASTORAL MINISTRY AND SACRAMENTS ADMINISTERED AT BEDSIDE, NOT SERVICES NOR SACRAMENTS ADMINISTERED IN CHAPEL.

Calendar Year 1962

PUBLIC HEALTH SERVICE, NATIONAL INSTITUTES OF HEALTH

SUMMARY ANNUAL REPORT OF PROGRAM ACTIVITIES
CLINICAL CENTER
ADMINISTRATIVE BRANCH

EMPLOYEE HEALTH SERVICE BRANCH

CC-12
Serial Number

Major Goals

Operating under provisions of Public Law 658 of the 79th Congress and under authorities delegated by the Civil Service Commission and the Bureau of Employees' Compensation, the NIH Employee Health Service provides up-to-date occupational health services to NIH employees. Primarily a service program both to management and to the employee, mutual benefits result in prevention and control of occupational injuries and diseases, reduction and control of sickness absenteeism, and individual health maintenance through a preventive medical approach. Emphasis in the program is placed on preventive medicine rather than on therapeutic medicine, with continuous regard for the ethical relationships between private physicians and employee-patients. Within these general guidelines, we will continue to develop a model occupational health program second to none in Government or private industry.

Extensive renovations to the main Health Unit in Building 10 were completed during the year. The final results far exceeded our expectations, particularly in relation to better utilization of our limited space and in improved traffic flow. The North Health Unit in Building 31 was opened during the year and plans are underway to develop this unit as an examination center for pre-employment and periodic physical examinations.

Pre-employment physical examinations have remained at a high level throughout the year except for the last two months during which time there has been a noticeable reduction resulting from the "freeze on accessions." The addition of part-time medical officers to our staff, in spite of our inability to replace our full-time Associate Medical Officer, has enabled us to maintain high standards in the performance of these examinations.

The increased emphasis on international health activities at NIH has influenced our operations in providing both physical examinations prior to and on return from foreign duty assignments, including immunizations, and in offering advice and guidance for employees in remote assignments to insure that their health needs are adequately met. Official concern is limited to employees only, and we are hopeful that legislative approval will be given to proposals to provide more complete medical care for dependents of NIH employees who are assigned overseas.

It is significant that during the past year directives were issued

that all Guest Workers and other "long-term visitors" will be required to have complete physical examinations shortly after arriving at NIH. Our infectious disease surveillance, particularly tuberculosis control, will be greatly improved as a result of this new requirement.

Preventive programs have continued to be emphasized during the year, particularly those dealing with infectious disease surveillance. Tuberculosis control, through periodic chest X-rays, tuberculin tests, and contact follow-up, remains an active part of our program. The provision of immunizations has also continued to be one of our more active programs, influenced this year by the increasing volume of international travel. Currently, interest is being focused on pre-exposure rabies protection for employees of the Poolesville Farm and the Dog and Cat Quarantine Unit through the use of duck embryo vaccine.

As a single example of the research potential of occupational medicine, we are pleased to report a collaborative study between NIAID and the Employee Health Service designed to isolate and identify unknown respiratory viruses. Nasal washings and blood specimens used in the study were taken from volunteers visiting the NIH Employee Health Service for treatment of common colds. Using new tissue culture techniques, NIAID scientists hope to identify many of the unknown agents now thought to be responsible for common upper respiratory conditions which account for excessive absenteeism in the winter months.

Major Problems

We are still waiting, as we have been for many years, for the Payroll Section to record time and leave statistics on the electronic computer. Although we understand that work is progressing satisfactorily along these lines, we are none the less becoming somewhat impatient about not being able to obtain significant morbidity data to enable us to focus our attention on problems amenable to preventive medical techniques.

Although we have had difficulties in locating a replacement for our full-time Associate Medical Officer, we have been fortunate in locating competent part-time Medical Officers. Our staff operations will be carefully evaluated over the coming six months to determine whether or not it may be more advantageous to continue with part-time Medical Officer in preference to a full-time Assistant Medical Officer.

There has been increasing awareness during the past year that the health needs of employees in the outlying rental buildings are not being met entirely satisfactorily. With the completion of the Westwood Building, which will have a Health Unit, and the relocation of Robin Building employees, there should be considerable improvement in this situation. However, it is our understanding that many employees will continue to function in scattered locations and we have not been able to devise suitable means of meeting their health needs.

A significant development during the past year, which we believe will have a direct bearing on our workload, has been the Civil Service directive

that women must be given full and equal opportunities in Federal employment. Extensive discussion and orientation sessions have been held with the Board of Civil Service Examiners, and it appears inevitable that there will be an increased number of physical evaluations to determine precisely the physical qualifications of female applicants for jobs which traditionally have been held by men.

Selected Statistics

| | FY 1962* | 1961* | 1960 | 1959 |
|---|---|---|---|---|
| Total visits..... | 25,208 | 22,798 | 32,589 | 27,579 |
| Visits for occupational injuries and diseases..... | 2,478 | 2,355 | 4,904 | 3,138 |
| Immunizations..... | 10,749 | 9,918 | 12,411 | 15,604 |
| Pre-emp. physical examinations..... | 2,886 | 2,094 | 1,937 | 1,704 |
| Laboratory examinations..... | 18,738 | 16,392 | 16,864 | 12,332 |
| Referrals to personal physicians..... | 1,934 | 2,359 | 2,024 | 1,736 |

*Procedures to tabulate these statistics were simplified at the beginning of FY 1961 with elimination of minor services tabulated in previous years. Meaningful comparison of FY 1961 and 1962 statistics with previous years is therefore impossible. However, it is our impression, based upon other relative workload indices, that FY 1961 and 1962 data would be comparable, or slightly in excess, of past years. The revised method of collecting data will be continued, and we can therefore expect to be able to make valid comparisons in future years.

Calendar Year 1962

PUBLIC HEALTH SERVICE, NATIONAL INSTITUTES OF HEALTH

SUMMARY ANNUAL REPORT OF PROGRAM ACTIVITIES
CLINICAL CENTER

ENVIRONMENTAL SANITATION CONTROL DEPARTMENT

CC-14
Serial No.

A. Program Goals

The primary objectives of the Environmental Sanitation Control Department during the year were to:

1. Provide the safest possible sanitary environment consistent with activities of the various institutes and auxiliary services in the Clinical Center and T-4.

2. Study the manpower requirements of the Operations Section and formalize its work and personnel procedures.

3. Orient, train, and supervise its personnel so that they are proficient in carrying out the program objectives.

4. Test various products and equipment in order to utilize the most modern housekeeping practices.

5. Develop an organization to cope with day-to-day environmental problems within the Clinical Center and to study the overall environment as it relates to an institutional setting.

B. Progress Achieved

1. We have been able to meet the daily demands for cleaning services in the patient areas fairly adequately. To do so has required the most careful planning and evaluation of needs with staffing priority being given to those areas. Cleaning in non-patient areas is limited - major cleaning is generally on a request basis only, as staff is available.

2. Work procedures are being reviewed in order to establish uniform standards and cleaning methods throughout the program.

3. Staffing requirements study, in relation to size and cleanliness level consistent with activities of each area of the Clinical Center, has been inaugurated.

4. Cleaning schedules and procedures have been revamped to a limited extent pending a complete study of each zone of the Clinical Center.

5. Initiated limited cleaning services in the new surgical building. Studies have been conducted and plans made for the initial cleaning of the building and the routine day-to-day work.

6. During the year more adequate equipment was purchased for the Operations Section. Major equipment consisted of closed cabinets for all gear rooms 55, microstat vacuum cleaners 14, plastic coated mopping units 26, aluminum stepladders 67, 22" floor polishing machines 2.

7. Program policies and management procedures are being prepared to meet the operating program needs.

8. Changes are being made in our training programs to increase the efficiency and productivity of our staff to enable it to carry out its cleaning responsibilities in a consistent and uniform manner. Major emphasis has been placed this year on supervisor-laborer on-the-job training. Formal classroom training has been limited. Training in emergency fire procedures was provided to 284 and radiation safety to 194 members of the staff for a total number of 457 man-hours.

9. New products and equipment were evaluated as time permitted and to extent possible with the non-technical staff available.

10. Cooperative studies were initiated with the Environmental Services Branch, Division of Research Services, to determine levels of cleanliness in certain areas of the Clinical Center and to study the operation of various cleaning equipment. Technical specifications have been developed for several items of equipment needed for the program. A close working relationship has been developed.

11. Major staffing changes were made in the Office of the Chief, Operations Section. Numerous personnel changes have occurred in the laboring group which we believe will upgrade the quality of work accomplished by the Section. The personnel management improvement program includes formal and detailed hiring and exit interviews of all personnel by the chief of the program. The work record of each employee is formally reviewed five times during the probationary year by the employees' immediate supervisor, the unit supervisor, and the Chief of the Section. Each evaluation is discussed with the employee and he is advised how to improve his work and personnel record. Each AWOL charge is discussed with the employee by the Chief of the Section prior to approving the charge. Communication has been improved within the section. Meetings are held routinely with the Senior Supervisors, labor leaders, and, as needed, with the full laboring staff. Each employee receives a copy of every new or major personnel policy change within the section.

12. The Clinical Center Department of Environmental Sanitation Control was authorized by the Surgeon General, July 18, 1962.

13. During the year, two employees received cash awards for suggestions to improve the operating efficiency of the program.

C. Problems

1. Some of the problems confronting this department are beyond its control. There are many minor problems which can be solved over a period of time and with improved management techniques within the program.

Problems that are controlled by others are as follows:

a. Equipment in corridors of the Clinical Center. Besides being a fire and accident hazard, equipment in the corridors prevents proper cleaning of the floors, walls, and ceilings. The increased use of power cleaning equipment makes it necessary for the corridors to be clear. In addition to making it difficult to clean the corridors, the equipment stored there is subject to damage from the power cleaning equipment.

b. Personnel

(1) During calendar year 1962, this department has not been fully staffed at any time. Personnel are available but the complex recruiting system and restrictions placed on hiring of laborers has made it impossible to hire quality people at a rapid rate. Required use of the register system has prevented us from processing personnel efficiently and getting them on the job. Although there are people on the streets who want the jobs, under the present personnel system we cannot hire them rapidly enough.

(2) The Veterans Preference Act prevents this section from employing male custodial personnel who were not veterans prior to mid 1955. We have been unable to hire elevator operators (veteran or non-veteran) to staff the elevators in the Clinical Center even though the Civil Service Commission has permitted us to hire outside the register. However, 3 months' experience is still required for the operators. This amount of experience far exceeds our needs. We can train an average person who has had no elevator experience to be an operator in a matter of hours.

c. Materials selection. Problems arise in the cleanability and maintenance of various facilities and surfaces throughout the Clinical Center. Various surface materials and finishes have been specified without adequate consideration of the cleaning problems involved.

d. Space requirements. The Department of Environmental Sanitation Control is being hampered in meeting its goals due to insufficient office and program space. Supplies and equipment are stored in one small central store room. Some materials which are used from day to day must be kept in small rooms throughout the Clinical Center. This requires many man-hours of taking the materials to the small rooms and then bringing them back to the central supply room. Considerable amount of our equipment and supplies are stored in a corridor behind the men's locker room. We have no control over removal of this equipment and supplies by unauthorized persons. The office for the section is 500 sq. ft. This space is used by up to ten people simultaneously. In addition, this space must also be used for signing employees in and out. During periods of sign-in and out, over a hundred people go through the office in a matter of five to ten minutes. Working conditions space-wise are extremely unsatisfactory. The production of the office staff cannot be maintained at the desired level under these unsatisfactory conditions. For example, the noise level is extremely high. The Communication Service has reported that this office receives on the average of 174 phone calls per day. With this amount of conversation going on, it is most difficult for the personnel to concentrate on their work.

2. Internal problem

Selection of equipment and materials for cleaning of large areas is a problem that requires considerable study and technical know-how. It is no longer possible with the complex cleaning materials available, to make selections strictly from the label or the salesman's word. It is essential for an operating program the size of the Department of Environmental Sanitation Control to have its own section to study and determine the suitability of the various materials and equipment to fit our needs as well as to evaluate other environmental problems within the Clinical Center. It is hoped that this section will be staffed in 1963.

D. Plans for 1963

1. Speed up recruitment of custodial personnel to budget ceiling so that we can establish labor crews to start cleaning the Clinical Center from the top to the last basement on a systematic basis. These crews would clean all laboratories, corridor walls, ceilings, and windows at regular intervals. It is the Department's desire to perform the work in the Clinical Center on a planned basis rather than on a request basis. At present, many areas are being cleaned frequently while others are cleaned very infrequently, even though the needs are equal.

2. Recruit personnel to develop on-the-job training aides, make internal inspections, and make studies of equipment and materials needed for the operation program and to conduct certain environmental studies in the Clinical Center. Additional supervisory personnel will be recruited

to provide the supervision necessary for the large cleaning force.

3. Provide more adequate formalized and on-the-job training for staff. This is to include new personnel and retraining of personnel now on duty.

4. Review all job sheets in the section and update them. Develop job descriptions for people performing specialized cleaning tasks.

5. Formalize and spell out the cleaning requirements of each zone of the Clinical Center.

6. Accept responsibility for additional operational activities within the Clinical Center as assigned by the Director's office.

7. Study the amount of administrative and other types of paper work done in the Department in order to simplify and reduce it to the minimum.

TABLE 1

ENVIRONMENTAL SANITATION CONTROL DEPARTMENT
OPERATIONS SECTION

POSITIONS FILLED (BY RECRUITMENT) JULY 1961 - DEC. 1962 BY FISCAL AND CALENDAR YEAR

| MONTH | WB-4 and above | WB-3 | WB-2 | WB-1 | GS-2 and above | Total |
|---|---|---|---|---|---|---|
| July 1961 | | | 1 | | 1 | 2 |
| August | | | 2 | | | 2 |
| September | | | 2 | | | 2 |
| October | | | | | | |
| November | | | 5 | | | 5 |
| December | | | | | 1 | 1 |
| (Sub-total) | | | (10) | | (2) | (12) |
| Jan. 1962 | | | 6 | | 1 | 7 |
| February | | | 1 | | | 1 |
| March | | | 4 | | | 4 |
| April | | | 2 | | | 2 |
| May | | | 8 | | | 8 |
| June | | | 1 | | 1 | 2 |
| (Sub-total) | | | (22) | | (2) | (24) |
| July 1962 | | | 11 | 1 | 1 | 13 |
| August | | | 6 | | | 6 |
| September | | | 4 | | | 4 |
| October | | 1 | 7 | | | 8 |
| November | | | 1 | | 1 | 2 |
| December | | | | | | |
| (Sub-total) | | (1) | (29) | (1) | (2) | (33) |
| TOTAL - Fiscal Year 1962 | 0 | 0 | 32 | 0 | 4 | 36 |
| CALENDAR YEAR 1962 | 0 | 1 | 51 | 1 | 6 | 57 |

TABLE 2

ENVIRONMENTAL SANITATION CONTROL DEPARTMENT

OPERATIONS SECTION

NUMBER OF SEPARATIONS, RESIGNATIONS, ETC., BY MONTH & GRADE

| MONTH | WB-4 and above | WB-3 | WB-2 | WB-1 | GS-2 and above | Total |
|---|---|---|---|---|---|---|
| January 1962 | | 1 | 1 | | | 2 |
| February | | 3 | | | | 3 |
| March | | 1 | 3 | | | 4 |
| April | | 2 | 2 | | | 4 |
| May | | 3 | 1 | | | 4 |
| June | | 1 | 2 | | 1 | 4 |
| July | | 1 | 2 | | | 3 |
| August | | 1 | 2 | | | 3 |
| September | | 3 | 2 | | | 5 |
| October | | 4 | 1 | | | 5 |
| November | | 6 | | | | 6 |
| December | | 9 | | 1 | | 10 |
| TOTAL | | 35 | 16 | 1 | 1 | 53 |

TABLE 3

ENVIRONMENTAL SANITATION CONTROL DEPARTMENT
OPERATIONS SECTION

PERSONNEL STATUS - 1962

REASONS FOR LEAVING

| RESIGNATIONS | TRANSFERS | RETIREMENT | TERMINATIONS | DECEASED |
|---|---|---|---|---|
| 7- Resigned when faced with possible disciplinary action or separation | 1- Transportation | 2- Retirement Disability | 1- Conduct unbecoming a Gov't. employee | 1 |
| 5- Drew retirement to pay debts | 1- Transportation and better chance for promotion | 2- Retirement | | |
| 1- Increase in pay on old job | 8- Higher pay Monday - Friday - less travel | | | |
| 3- Health | | | | |
| 1- Refused transfer within section | 8- Within NIH Monday - Friday - day only | | | |
| 4- Moving away | 1- Lighter work | | | |
| 3- No reason | 4- No reason | | | |
| 24 | 23 | 4 | 1 | 1 |

TOTAL - 53

PUBLIC HEALTH SERVICE - NATIONAL INSTITUTES OF HEALTH

SUMMARY ANNUAL REPORT OF PROGRAM ACTIVITIES
CLINICAL CENTER

SOCIAL SERVICE DEPARTMENT

CC-21
Serial No.

The year 1962 was notable for a marked rise in the number of social work services rendered; the increasing integration of social work in collaborative studies on the medical Institutes; the extension of studies on the Mental Health Institute into the home and community; and the opportunity afforded, through requests from national voluntary health agencies, professional organizations, related branches of D.H.E.W. and U.S.P.H.S., and the local community, for the presentation of the staff's systematic observations about social functioning in chronic disease via publications, papers, and conferences.

Implementation of the social work program necessitates an ongoing, intensive recruiting effort.

Although six staff members were hired in 1961, promotions, additions to program and changes in personal plans of staff members require that the recruiting effort be continued as a major concern in administrative program. This year's effort yielded four full-time and one part-time staff members.

In line with the Department's objective to maintain a balance between the recruitment of the promising recent graduate and the well-qualified experienced worker, two new staff members are recent graduates and three have had extensive experience.

The staff development program reflects the concern of our Department and that of the total social work field to help recent graduates realize the goal of competence and self-responsibility by providing an early professional experience which is well supervised and the opportunity to learn through the presentation of diagnostic formulations derived from their own practice in casework workshop.

Integration of practitioner-investigator skills for the recent graduate is forwarded through a later seminar planned as a review of the research process and an orientation to the Clinical Center program objectives in this area.

A unique development in the Department, and, to the best of our knowledge, in the field of clinical social work, is the research workshop planned by members of the staff and conducted by Dr. Roger Miller, Professor of Social Work Research in the Smith College School for Social Work. The workshop, open to all staff utilizes a format familiar to social work from casework presentations; however, the focus is on various phases of individual staff members' research projects which have been formulated directly from practice at the

Clinical Center.

Following a pattern derived from an experience at Cleveland Family Service, the total staff participated in a one-day workshop in November focused on a review of the Department's program goals and appropriate means to achieve them.

The discussion of ideas among total staff was instrumental in facilitating the exchange and ultimate enrichment of ideas across Institute programs and a better projection by administration of program needs and priorities over time.

Administrative studies of the utilization of the Patient Welfare Fund and of levels of responsibility in job performance have been of real value in program planning -- in the former instance, in setting forth guidelines for the utilization of the Fund, and, in the latter instance, in our future participation in discussion of the re-classification of social work positions with the Ad Hoc Committee of Social Workers in the Public Health Service and, ultimately, with the Civil Service Commission.

We are interested in, and have been encouraged by Clinical Center Administration to initiate, small operational studies of our statistical and recording systems. Our goal is to work toward the development of an efficient statistical and recording system which accurately reflects the function of the Social Service Department as a unit of the Clinical Center and as a part of an integrated program of patient care.

While we realize that this is a difficult and challenging area in the field of social work in general, we believe an ongoing assessment will be useful to the Department and may be of value to the field.

STAFFING AND RECRUITING

There were a number of changes in and for staff during the year, all of which offered satisfying opportunities for the members involved. In addition to changes in assignment, there were program developments on NCI, in the Outpatient Clinic, and on NIMH in the General Psychiatric Service, which led to new positions.

In February, Mrs. Jessie Dowling, Program Supervisor, NIAMD and NIAID, accepted a position as Mental Health Consultant for NIMH, Region V. Mrs. Lucia Mason, Clinical Social Worker, NIAID, was promoted to the Program Supervisor position on NIAMD - NIAID.

In April, Mrs. Joan Lindall, Clinical Social Worker on NHI, resigned to be married. Subsequently, she accepted a casework position with the Child Guidance Clinic, Yakima, Washington.

In June, Geraldine Conner was awarded the Doctor of Social Work degree from the George Warren Brown School of Social Work of Washington University.

In July, Mrs. Yolande Davenport, formerly Psychiatric Social Work Coordinator, Mental Hygiene Clinic, Albuquerque, New Mexico, was employed to be the clinical

social worker on the General Psychiatric Service.

Two promising recent graduates, Mr. David Callagy, the Boston College School of Social Work, and Mr. Thomas Gallagher, the Fordham University School of Social Service, were recruited for clinical social work positions on NHI and NIAID respectively.

In September, Mr. Delbert Nye, Clinical Social Worker, NHI, was promoted to the position of Supervisor, Normal Volunteer Patient Program, and Mrs. Dorothy Kuhl, Clinical Social Worker, NHI, accepted a casework position with the Child Care Center, Baltimore, Maryland.

In October, Mrs. Joan Maguire, formerly Caseworker-Supervisor, Hartford Diocesan Bureau of Social Service, accepted a position as Clinical Social Worker, the Children's Leukemia Unit. At the same time, Mr. Joel Vernick transferred to NCI, the Children's Leukemia Unit, to develop a group work program for the children in conjunction with Mrs. Maguire's work with their families.

Mrs. Vincenza Bowles, formerly with the Memorial Hospital, New York City, accepted a part-time position (one day a week) to initiate an evaluation of the kind of social work services needed in the NCI, Outpatient Clinics.

In November, Mrs. Shirley Owen, Program Supervisor, NINDB, resigned because of additional responsibilities at home. Miss Evelyn Walker, Clinical Social Worker, NINDB, was promoted to the supervisor's position. We are anticipating that Mrs. Owen will shortly return to part-time employment in the department in order to initiate short-term studies of our statistical and recording system.

The changes occasioned by promotion, new program, and preference for other kinds of assignments, accent the recurrent problem of recruiting.

While we profit from increased recognition of the program and its objectives and the support of school faculties, the special emotional and intellectual requirements of the positions do require that we recruit selectively in order to obtain high-calibre staff members.

We have intensified our recruiting effort via the Civil Service Register, the review of Commissioned Corps folders, contacts with the schools of social work, and through contacts at professional meetings.

We believe that we can be materially benefited by the establishment of an advanced clinical social work position at the GS-11 rating in the 185 Series.

Recently, many of our experienced workers have joined our staff, despite a loss in compensation, because of high motivation and interest in the program. We believe it is essential that they be recompensed in accordance with the quality of their experience and that the Department be able to compete favorably with voluntary agencies having the same qualification standards.

PATIENT CARE

The challenge of optimum care for an unusually complex group of patients continues to be the staff's ultimate concern. While supportive and rehabilitative services provide the foundation for social work care, some of the adaptations and innovations in various Institutes are worthy of note.

The following discussion serves to illustrate the fact that the further integration of social work studies of social components and social functioning in larger studies of chronic disease is an actual reflection of kinds of knowledge gained through patient care and services rendered because of patient needs.

On the National Institute of Arthritis and Metabolic Diseases, Mrs. Lucia Mason, Program Supervisor, notes that the Arthritis, Gastroenterology, Pediatric Metabolic Service, Gout, Hematology, and Adult Metabolic Services are all extremely active both because of the nature of the diseases involved and the rapid turnover rate in patient care.

Because of the number of admissions, Mrs. Juanita Turk has not been able to see each arthritis patient as she had done previously. However, the physicians on this Service continue to rely on the social worker's assistance in working through with patients not only practical plans for job re-training and revised living situations but also for help with feelings about the encroachment of disability. It was on the basis of experience with patients on the Arthritis Unit that Mrs. Jessie Dowling, former Program Supervisor, presented a paper at the National Foundation's meeting in Warm Springs in October, 1962, on "The Contributions of the Social Worker in a Special Treatment Center."

An increasing proportion of Mrs. Turk's caseload is being drawn from the Pediatric Metabolic Service. Because of the impact of the fibrotic child's illness on the total family, there have been an increasing number of families referred for social evaluation and ongoing casework service. Out of this experience, and with considerable encouragement from the medical staff, Mrs. Turk has begun a study which details systematically the effect of the child's illness on the whole family toward better understanding and handling.

On the Metabolic Service, Mrs. Myrna Weissman is asked to see each patient both as a supportive measure and as an aid in differential diagnosis.

Because of the interest of a number of university hospitals which have recently organized metabolic units under N.I.H. grants, our Department, and particularly social workers assigned to the Metabolic Units, as is Mrs. Weissman, have been active this year in orienting visiting social workers from several university hospitals to the function of social work on a metabolic unit. Mrs. Weissman has also participated in the seminar for visiting dietitians, presenting her role as a member of the research metabolic team.

Mrs. Weissman is now completing a paper on "The Social Worker as Part of the Research Metabolic Team."

This past year saw the culmination of Mr. Joel Vernick's three-year demonstration of group work services to children on NIAMD.

Mr. Vernick dealt with the children, either in groups or singly in relation to life and events within the hospital, utilizing not only the medium of scheduled group activities but also the "life-space interview" to help the child participate in medical and/or research procedures and in relation to ward management problems.

The "life-space interview" technique was originally conceived by Dr. Fritz Redl and utilized by Mr. Vernick in a residential treatment setting. Its adaptation to work with chronically ill children is an innovation which Mr. Vernick has described in a paper he is submitting for publication.

Because Mr. Vernick's program is essentially a demonstration, he has recently been assigned to the Children's Leukemia Unit to assess the value of group work with frequently hospitalized, severely ill children.

On the basis of NIAMD's experience with Mr. Vernick, they are urgently requesting the Department to recruit an additional groupworker so that the large number of children admitted to the Institute will have the opportunity to handle feelings aroused by separation, long term hospitalization, and chronic illness.

Recent trends in NIAID studies have resulted in the recruitment of a group of patients who tend to be fully ambulatory and to feel relatively well during a stay of several months. In these instances, the concern of both the patient and the social worker is focussed primarily on problems of hospital adjustment and vocational and rehabilitative services.

Among the most challenging of these patients have been the three young men with leprosy admitted from Mexico, accompanied by Dr. Saul, specialist in leprosy from the Dermatological Clinic at Pascua, a suburb of Mexico City. Mrs. Mason was fortunate in being able to review with Dr. Saul the medical-social histories (in Spanish) which accompanied two of the patients.

Subsequently, Mrs. Carmen Cabrera, social worker on NIMH, who is Puerto Rican in background and fluent in Spanish, interviewed the patients. On the basis of this interview, in Spanish, it seemed important that Mrs. Cabrera offer regular and continuing casework services to these young men. A special arrangement was made for her to offer these services after work, on an overtime basis, in order to assist them in their adjustment, to translate medical and diagnostic procedures, and to anticipate any possible problems occasioned by discharge.

Since October, Mr. Thomas Gallagher has begun to take all new admissions on NIAID and will eventually be responsible for the entire unit. However, Mrs. Mason will continue her study of the effect of isolation on patients on NIAID.

The situation on the National Cancer Institute is such that the social worker is consistently dealing with a considerable volume of hospital and clinic patients whose needs, immediate and ultimate, are conditioned by catastrophic

illness. The studies which social workers on this Institute have initiated tend to reflect the areas of greatest concern for them. For example, their studies are geared largely toward an assessment of the kinds of services rendered, that is, the effectiveness of group meetings for parents and the facilitation of good discharge planning.

During the year, Miss Conner continued in her assignment as a member of the interdisciplinary research team on the Children's Leukemia Unit. In this capacity, she offered casework services to the parents and children and collected data for certain phases of the Stress Study according to instruments she had designed earlier. After she was awarded her doctoral degree from Washington University in June and transferred to a different position in the department, Mr. Burke, in addition to his regular assignment on Adult Leukemia, assumed responsibility for the Children's Leukemia Unit for four months. During that period, he designed a questionnaire to be sent to parents to assess the value of the parents' group meetings for them. The returned questionnaires are now being analyzed.

Experience on the Children's Leukemia Unit has indicated conclusively that the needs of the children differ markedly from those of their parents; therefore, Mr. Vernick was transferred to this unit in November to initiate a group work program including planned activities, use of the "life-space interview", and regularly scheduled conferences with hospital staff around optimum team handling of the children's adjustment in the hospital. At the same time, Mrs. Joan Maguire was assigned to work with the parents of the children.

On the Choriocarcinoma Unit, Miss B. Belvin Rollins has the challenging responsibility of working with young married woman, who, while realistically optimistic about treatment, still have considerable anxiety occasioned by separation from their husbands and children and a prolonged, difficult course of therapy. An interesting phenomenon, occurring with some frequency, is the husband and family's temporary move to the area to be near the patient during her hospitalization. While his presence and that of the family have been of real emotional support to the patient, the problems of re-location in relation to home, job, and school have been of considerable concern to the social worker, particularly in her efforts to arrange appropriate plans for the family which do not put an undue strain on the resources of the local community.

During this year, Miss Rollins has also been responsible for the Solid Tumor Unit. The problems on this unit of 19 beds are compounded for the total staff because of the terminal nature of the illness and a 90% occupancy rate.

In addition to her responsibilities as NCI Program Supervisor, Mrs. Himmelsbach has offered social work services to the Dermatology Unit of seven beds on 12 West where emphasis is placed on the study and treatment of mycosis fungoides. Because of pain and unsightly appearance, the patients have severe problems in social adjustment. Mrs. Himmelsbach and Dr. Van Scott have recently initiated a study of the interaction between the disease process and problem in social functioning.

Throughout this year, bi-monthly multidiscipline conferences have been held

on the Solid Tumor, Dermatology, and Adult Leukemia Units with Dr. Richmond, the consulting psychiatrist. Over time, these conferences, originally initiated by Mrs. Himmelsbach, have become well established and contribute to a better understanding of patient and staff additudes on an Institute where these concerns are necessarily crucial.

In January 1962, Miss Rintha Carter was assigned full-time to the NCI Surgical Unit. Because of the volume of admissions and the need for effective and efficient discharge planning, Miss Carter's full-time assignment more adequately meets the needs of a stressful service.

During 1961, over 5,000patient visits were reported for the NCI Outpatient Clinic. Although the NCI social workers handled all emergency referrals, there was real concern for the patients who were not seen, both because of the serious nature of their problems and their probable impact on the local community. For the past three months, Mrs. Vincenza Bowles, a social worker experienced in dealing with cancer patients, has been assigned to the Outpatient Clinics each Friday to assist patients and to assess additional needs. Present indications are that these patients do not ordinarily represent "walk-in" emergencies previously unknown to the clinic but rather that they are patients consistently known whose social problems are more likely to become emergent because the social worker's contacts with them lack the regularity and continuity of care experienced by comparable patient groups in the hospital.

The National Heart Institute staff has been very aware of the pressure created by a large number of in-patient admissions; for example, in the first ten months of 1962, 896 patients were admitted to NHI. Of this number, 593 were admitted to the fast-moving Diagnostic and Surgical Branch. Despite the pressures created by the number of patients, the social workers continue to be well integrated in the medical care-research program and they continue, particularly in the Cardiac Surgery Branch, to report the results of their experience to the field of public health.

The growth and expansion of Dr. Braunwald's Cardiology Branch and his interest in the social worker's contribution through patient evaluation, direct service to patients and families, and participation in interdisciplinary research has had important implications for the development of social services in this section.

With Miss Lindall's departure in April 1962, Miss Roberta Peay and Mr. Harold Richman divided coverage responsibility between the Diagnostic and Surgical patients. Emphasis in this program has been on 1) early assessment of social and personality functioning as related to the patient's and family's ability to cope with crisis and stress; 2) preventive and treatment aspects of case-work intervention with children; and 3) increased knowledge concerning the symptomatology and management of acute grief.

In a paper entitled "What Social Services Can Offer to Patients Being Considered for Cardiac Surgery," Miss Peay analyzed her experience at the Clinical Center for the Meeting of Medical Social Work Consultants in Health and Medical Care in New York City, in May 1962. Recently, she has submitted the paper for

publication in Public Health Reports. In addition, she has presented facets of this material at the Heart Nursing Conference and at a meeting of the Social Service Staff of the D. C. Bureau of Maternal and Child Health.

In addition to being active in the provision of casework services for the Clinical Endocrinology Branch, Mrs. Kuhl participated in the orientation of visiting social workers from university hospitals having new metabolic units, and in the presentation of principles of human growth and development pertinent to the endocrinology patient group at nursing team conferences. In the area of research, she prepared case material for the pilot study of "Intervention" conducted by N.A.S.W. and participated in the "Loneliness" study. Her ongoing observations of recurrent themes in the patients' reactions to metabolic studies have contributed valuable knowledge to the department. Since her departure, Miss Barbara Murphy, in addition to her supervisory responsibilities, is handling referrals from this unit.

At the request of Dr. Fredrickson and Dr. Bartter, Mr. Nye began a study of the adjustment of the collegiate normal volunteer to the Clinical Center. It was approved enthusiastically by the four Branch Chiefs on NHI.

Since his new assignment is the Normal Volunteer Patient Program, the study will be continued under the aegis of that department.

Additionally, in his new assignment, Mr. Nye will be working with the Social Service Department to develop guidelines for relationships between the two departments in the area of our mutual interest, i.e., the Normal Volunteer's adjustment to the hospital setting.

The need for better planning for the Federal prisoner patients was noted in the last annual report. Through the efforts of Mr. Harold Richman and his work with the Federal Bureau of Prisons, policies have been developed to ensure more efficient preadmission and discharge planning. Patients are now admitted with clothing, medical and social records, and spending money (providing the prisoner has some in his prison account). Their preparation regarding the Clinical Center has included the provision of information about the nature of its patient care program, research mission, and the rights and responsibilities of patients admitted here. Increased liaison work related to release planning has been initiated here for the patient's return to more suitable institutions.

A trend in staffing which immeasurably affects the program continues to be evident on NHI -- that of frequent changes in staff. Mr. David Callagy replaced Mr. Delbert Nye in his assignment on the General Medicine and Experimental Therapeutic Branch. However, during the past year the resignations of Miss Joan Lindall and Mrs. Dorothy Kuhl left two positions unfilled.

Increased investment in the development of young workers, through the opportunity for a good work experience and supervision on NHI, provides an excellent resource for future staffing. However, since the young staff members use their early experience as a time in which they make important personal and professional decisions, there is also the possibility, as has been evidenced, of considerable staff turnover.

The NIMH social work program is increasingly directed toward the family and community. Families are being seen as units in four of the six ongoing studies, and treatment of individual family members constitutes an important part of the research design in the remaining two studies. As a result, the social workers visit the home and community more frequently.

Mr. Paul Blank and Mr. Walter Sceery continue their assignments as clinical social workers in the Child Research Branch. The married couples are interviewed for selected periods during the pregnancy of the wife and after the birth of the child. A relationship is maintained with them over a period of several years through interviews, questionnaires, and help in coping with their problems. Much of the material elicited is of an anxiety-provoking nature and clinical skill is needed to obtain the information and to allay the anxiety created. The kinds of skills used and abilities demonstrated have effectively enabled the couples to remain in the study.

The couples are presently entering a most demanding phase of life. Many will need help in successfully dealing with the problems they encounter, and the clinical aspects of the social workers' duties become an important part of their assignment.

Mr. Blank's adaptations of drama techniques in the research design of the project were given recognition this year when NIMH depicted his design and method in a film entitled "Improvisations as a Method of Observing Couple Interaction," which was presented before the International Seminar for Family Studies in August, 1962. Mr. Blank also discussed the project with the Social Service Department, particularly as it pertained to Erickson's concept of intimacy as a developmental phase in the life cycle. Mr. Blank is preparing a paper entitled "Improvisations - Conflict Induced Situations in Experimental Situations" for presentation at the A.P.A. Meeting in St. Louis in May 1963.

Mr. Sceery's paper, "A Follow-up of Treatment Results of a Residential Treatment Program," derived from his previous assignment with Dr. Fritz Redl, is to be published in an NIMH monograph.

Mr. Robert Mahon, Clinical Social Worker, the Nursery School Project in the Child Research Branch, is presently interviewing mothers of the infants observed in Suburban Hospital two years ago in order to select 46 out of the 96 children to be admitted to the nursery school in the C.R.B. In addition to selecting appropriate subjects for the project, he is interested in maintaining the good will and cooperation of all the original subjects.

Clinically, he makes appropriate referrals to social agencies, relieves anxiety of the parents about separation from their child and discusses with them problems they bring to him about the children. In relation to research, Mr. Mahon shares fully in the overall operation of the nursery school and in development of the criteria for the selection of subjects and the observations and analysis of findings. He is writing a paper entitled "The Influence of Congenital Characteristics on Mother-Child Interactions."

Mr. John Roatch continues his casework functions on the Depression Project.

At the present time, there is greater focus on the analysis of data. Dr. Bunney, Principal Investigator, and Mr. Roatch are now writing a paper entitled, "A Behavioral and Endocrinology Study of Severe Depressive Crises," for presentation at the A.P.A. Meeting in St. Louis in May 1963.

Mrs. Carmen Cabrera is also devoting more time to the analysis of data. She is to be one of three co-authors of a paper dealing with problems of adolescence. Dr. Roger Shapiro, Project Director and senior author, has asked Mrs. Cabrera to meet with him weekly in order to review the findings and assist in writing up the material.

Miss Carol Hoover is a co-therapist with the psychiatrist in therapy sessions for four families, and provides casework services to individual patients and to family members of other patients. She attends the research meetings and participates in the analysis of data, particularly that portion which has to do with the psycho-social functioning of the family. At the present time, she is drafting a paper to be entitled "The Embroiled Schizophrenia Families - The Development of a Concept."

In addition to offering traditional casework services on the Multi-Dimensional Therapeutic Unit, Mrs. Dorothy Oberdorfer acts as a group leader with three families whom she sees twice a week. She meets in total family, patient and staff sessions twice a week and, in addition, does pre-admission screening alone or together with the Project Director. Research data is charted from the observational and therapeutic activities described above. It is anticipated that Mrs. Oberdorfer will be engaged in follow-up work with former patients and their families, primarily through interviewing them in their own homes.

Mrs. Charlotte Wilkie is engaged in the study and treatment of severely disturbed families; however, the emphasis in her section is on the biologic and genetic factors in mental illness. She is utilizing the scales of family interaction developed at the Henry Ittelson Center of Child Research and applying them to observations gathered during her home visits with these families.

A new facility, designated as the General Psychiatric Service, is now in operation. Mrs. Yolande Davenport, the clinical social worker assigned to the project, is responsible under Dr. Harold Greenberg's direction for the initial screening process for all the NIMH clinical research projects. In addition, Mrs. Davenport is responsible for the necessary casework functions in connection with the internal operations of the G.P.S.

Preparations are well underway for the establishment of a new project which will be a study of schizophrenic illness in identical twin pairs discordant for schizophrenia. The social worker will recruit patients and their families from a nation-wide sampling and will deal with the reality and emotional problems of the family groups as they prepare to come to NIH, as well as throughout their stay here.

A request has been submitted for an additional social worker to be included in the Department's budget for Fiscal Year 1964. Pending approval, NIMH has

agreed to pay the social worker's salary when a suitable candidate is recruited.

The social workers on NINDB, like those on the other medical institutes, express concern about the volume of admissions and rapidity of turnover in relation to patients whose neurological and eye disorders require intensive social planning ranging from nursing and protective care to rehabilitative and vocational services. It is characteristic of this Institute program to have studies which are well integrated with those of the physicians. Their contribution this year is more remarkable because, in addition to problems of volume and rapid turnover, illness and demanding life situations resulted in prolonged staff shortages which required extended periods of coverage for each social worker in the Institute.

Mr. Robert Savard, Assistant Chief and formerly Program Supervisor on NINDB, and Miss Evelyn Walker, Clinical Social Worker on the Surgical Neurology Unit and part-time Acting Program Supervisor, tabulated and analyzed the data in their study entitled "The Social Functioning of Patients After Temporal Lobe Epilepsy." They are now preparing the study for publication.

In March, Mr. Savard and Miss Walker led off the presentations in the Research Workshop with their project. At Dr. Baldwin's request, they had a series of meetings early in 1962 to explore the possibilities for collaborative reporting of their respective research. As yet, no decision has been reached on such a report.

In April, Miss Walker presented a paper entitled "Attaining Maximum Social Recovery in Patient Care" at the combined meeting of the Medical and Psychiatric Sections, the Baltimore Chapter, NASW.

When Mrs. Shirley Owen returned from maternity leave in May 1962, she resumed her responsibilities as Program Supervisor and continued her study of the social effects of eye disease. It is planned that this study, presently in the analysis stage, will yield two papers: the first to deal with the effects of vision changes on occupational status, and the second to describe the experience of having an eye disease.

From December 1961 through June 1962, Mrs. Lilian Scherp was assigned to the Eye Service on a part-time basis. During this period, she was actively engaged in helping the eye patients to make maximum use of the community services available to them through the schools and social agencies. When it became necessary for Mrs. Scherp to take a leave of absence because of illness, Mrs. Owen and Mr. Polcari shared responsibility for the Eye Service.

Throughout the year, Mr. Polcari has been responsible for the Medical Neurology Unit as well as for routinely covering the Eye Service on a part-time basis. Because of the severity of the neurological disorders under study, social work contacts with these patients and their families have been directed toward supportive and rehabilitative services which need to be accomplished during a hospital stay of three weeks or less.

Because of additional responsibilities at home, Mrs. Owen resigned in December. Miss Walker was subsequently promoted to the Program Supervisor's position.

With Mrs. Scherp's return in February, the Eye Service will again receive coverage; however, it is necessary to recruit a clinical social worker for Miss Walker's previous assignment in Surgical Neurology.

An overall view of Institute programs indicates that the severity and pressure of patient needs require optimum performance from social work staff and that the performance is further improved by systematic studies of social functioning as it relates to chronic disease. In undertaking this combination of practice and study, we believe we are beginning to meet the challenge Dr. David E. Price gave to social workers at the Princeton Seminar on Public Health Content in Social Work Education. In discussing "The Role of Social Work in Meeting the Challenge to Public Health," he said, "I believe that social workers, with their experience in casework, can help determine in depth the impact of acute and chronic illness; can provide useful information on the social aspects of typical institutions such as schools, hospitals, and health departments; and can assist greatly in the 'tracing function' -- the follow-up phase of a research project."

## THE PATIENT WELFARE FUND

Our concern over the accelerating depletion of Patient Welfare Fund reserves continued despite efforts to secure added income. By late spring, 1962, complete depletion of the Fund was imminent.

An analysis of trends in income and expenditure since 1959 revealed that since 1960 there has been a constantly rising disparity between income and expenditure. While income rose from about $12,500 in 1959 to $15,500 in 1961, expenditures rose from about $8,500 in 1959 to $18,000 in 1961. In the first half of 1962, income actually dropped in comparison to previous years while expenditures continued to rise. During this first half, income was $5,388, while expenditures amounted to $8,724. This disparity necessitated the use of reserves that had been built up prior to the last half of 1960. As a result, reserves diminished from a high of $8,000 in June 1960 to a little more than $1,500 in June of 1962.

Projecting this trend to the last half of 1962, it seemed probable that income would approximate the amount which had been received in 1960 -- about $14,000. Using this as a base, categories of expenditure were examined to determine where decreases might be possible. It was found that Patient Travel, Miscellaneous, Basic Allowances and Special Programs had remained relatively stable over the preceding years. It was felt that the amounts expended for these categories were basic and no formula could be devised to decrease expenditures uniformly without interfering with the effective use of the Fund. Allowances to Families, on the other hand, had shown the greatest increase in expenditures over the past several years, and these were confined principally to two Institutes. It seemed probable that these expenditures might be decreased,because 1) parents are housed in the Clinical Center for one of the studies on the Children's Leukemia Service; and 2) some families might be helped to better budget the amount of time they stay at the hospital, thus decreasing the amount of support they require. Taking into account variations in past expenditures among the Institutes, the Cancer Social Service Section was restricted to a ceiling of

$200 per month, and the Heart Social Service to $150 per month, for Family Allowances, and all the other Institutes' Social Service Sections were restricted to $50 per month. Staff members were instructed to inform the administrator of any situations in which these restrictions would cause undue hardship, so that arrangements would be made to meet any critical situations. In respect to all other categories of expenditure, staff was requested to increase efforts to secure funds from outside resources before the PWF was utilized, and to keep constantly in mind the situation of the Fund when determining the need for expenditures in individual cases.

By August, both the specified restrictions and the care exercised by all staff members had brought income and expenditures into balance and a small addition was made to reserves. No reports were received of undue hardship resulting from this action, though flexibility in using the Fund had obviously been decreased.

As in the past, the Recreation and Welfare (R & W) contributions remain the only assured source of income. R & W contributions have been maintained at essentially the same level for the last two years.

In order to facilitate detailed analysis of expenditure, a new request form has been designed and is in use. This form will permit better analysis of such factors as the place of residence of recipients of the Fund, the situations from which financial need arises, the illnesses from which the recipients suffer, and the casework basis on which the expenditure is determined. We can then predict with more accuracy the most pressing need for funds from the PWF.

In summary, it was with great reluctance that we restricted PWF expenditures; however, had expenditures continued at previous levels, it was certain that reserves would soon be completely exhausted. Expenditures would then have had to be based primarily on income available at a particular time, which varies greatly from week to week and month to month. It was quite probable that there would be periods in which no funds would be available at all. As it is, we will be able to make funds available to patients and their families when financial needs are pressing.

We are most appreciative of the major support given by the R & W. Their contribution is of inestimable value in providing the means for both moral and financial support to patients and their families. We would also like to note the thoughtful contributions which come from the N. I. H. staff, individually, and from the patients and families themselves.

In the future, we hope to build up a reserve sufficient to increase the flexibility with which the Fund can be expended.

## THE STAFF DEVELOPMENT PROGRAM

In the present phase of the Department's growth, the staff development program needs to be concerned with the diversity in the staff's interests and levels of development; to begin to evaluate the Department's approach to the realization of competence in the recent graduate; and to attempt a better balance and

integration of clinical social work and research interests.

During the last year, there has been an opportunity to present the staff development program to the social work community; to initiate a research workshop with Dr. Roger Miller as the seminar leader; to devise a method for the assessment of the casework workshop for recent graduates; and to elicit staff's participation in setting guidelines for future programming.

In March, the Department co-sponsored, with the Research Section of the Metropolitan Chapter of the National Association of Social Workers, a workshop concerning the social work practitioners' investment in research. Mr. Roatch, Mrs. Scherp, and Mrs. Mason presented a description of the development of their projects on "Loneliness" and "Isolation." Dr. Conner and Mr. Savard presented papers on "Creativity" and "Uncertainty" as these concepts pertain to social work research.

The workshop, attended by some seventy-five social workers in the community, provided a unique opportunity for clinical social workers in different programs to exchange ideas about ongoing research derived from practice.

In devising the format for the research workshop, the Committee, consisting of Mr. Roatch, Dr. Conner, Mr. Blank, Miss Hoover, and Mr. Savard, was interested in setting up a program which would illustrate the practical application of research principles in ongoing studies. The studies represented included those of Mr. Savard and Miss Walker on "The Social Functioning of Patients After Temporal Lobe Excision for Epilepsy"; of Mrs. Himmelsbach, Dr. Conner, Miss Carter, and Mr. Burke on "Relationship Between Knowledge of the Focus of the Hospital and Frequency and Kind of Discharge Problems"; and of Mrs. Wilkie on "Distortions in Recording." Later in the year, more emphasis was placed on the formulation of new projects through the use of the literature on client-worker expectations.

The casework workshop, led by Miss Murphy, continues to emphasize differential diagnosis and treatment toward the realization of competence for the young worker. In order to determine the efficacy of the casework workshop as a developmental activity, Miss Murphy has been working with Dr. Conner to develop an instrument to evaluate the gains in practice and knowledge made by the group.

During this year, the Sampling Committee for the Role Persistence Project completed its assignment -- that is, the selection of patients to be interviewed. This project is now being tabulated and analyzed. Mr. Roatch and Mrs. Scherp are also in the process of analyzing the data from the "Loneliness" study.

Under the leadership of the Program Review Committee, organized by Mr. Savard and consisting of Mr. Burke, Mr. Hirsch, Mrs. Mason, Mr. Mahon, Mr. Richman, and Mr. Vernick, the total staff was asked to participate in a 1-day workshop to review the Department's objectives and the best means to obtain them. A strong recommendation from the group was that additional channels be set up for the exchange of information about staff's ongoing activities in order to implement a greater interchange and cross-fertilization of ideas across Institute lines.

RELATIONSHIPS WITH OTHER PROGRAMS

At the Fourteenth Annual Conference of Chief Social Workers from State Mental Health Programs, held at N.I.H., the social service program of the Clinical Center was presented, with special emphasis on clinical research aspects in the NIMH Section. Participants were Dr. Himmelsbach, Miss Walsh, Mr. Hirsch, Mr. Blank, Mr. Mahon, Mrs. Cabrera, and Mr. Roatch.

The Regional Consultants for the Indian Health Services spent a day at the Clinical Center being oriented to the program, and their visit provided an excellent opportunity for planning for future admissions of Eskimo and Indian patients. This was of special interest to the NHI and NIAMD Institutes.

At the request of Mr. Albert Rhudy, Medical Social Consultant of the Heart Control Program, Miss Walsh and Mr. Vernick discussed the role of group work in social work programs in the Public Health Service with Mr. Rhudy and Dr. Mabel Ross, Special Assistant in Mental Health, Bureau of State Services. The focus of the discussion was a career development program in group work in the P.H.S. Subsequently, clearance was obtained between the two bureaus in order that the Bureau of State Services and the N.I.H. may have Mr. Vernick train a group worker in this setting as part of a career development program which would eventuate in a field assignment in the Chronic Disease Program.

Miss Mary Gillis, Chief, Social Service Branch, Division of Hospitals, visited the Department, at our request, to discuss medical-social aspects of the leprosy program at Carville in preparation for the admission of leprosy patients to NIAID.

In preparation for the further development of the group work program here, Mrs. Mason and Mr. Vernick visited the Boston City Hospital where the Boston University School of Social Work has initiated a demonstration project.

As part of a field assignment, several students from the Harvard University School of Public Health spent several days observing the social worker's participation in the NIMH projects.

In the Intramural Program, Mr. Polcari, in his capacity as Chairman of the Welfare Committee, has been acting as the liaison person for the Social Service Department with R & W. He has been particularly active in formulating guidelines for the use of the R & W Emergency Loan Fund.

ADMINISTRATIVE STUDIES

During this year, we have been interested in initiating administrative studies in relation to social work service and procedure, in order to provide an ongoing assessment of total operation.

Statistics

The statistical reports available to us indicate that there has been an approximate thirty percent rise in services rendered.

While we are satisfied that the Department's statistical reporting method reflects accurately the increase in volume of work apparent in the total Clinical Center program, we believe that it can be more descriptive of the nature of the service rendered.

The present statistical system gives us the number of interviews carried on by social work staff, but it does not reflect the number and complexity of factors used in case assessment, or the nature of the contact with team members, families and social agencies. Case accounting is a widespread problem in the field of social work; however, we believe that it is essential in terms of administrative planning to attempt a more accurate reporting system. We are looking forward to Mrs. Owen's return to the staff on a part-time basis to initiate time-limited, small-scale studies on statistics.

Another area of administrative concern has been the present classification of clinical social work positions. Earlier in the year, Mrs. Dowling undertook the task of describing the levels of performance required in the Clinical Social Work Series, ranging from GS-9 through GS-12. This work has been carried on by the Job Analysis Committee, chaired by Mrs. Cabrera and including Dr. Conner, Mrs. Davenport, Miss Peay, Miss Rollins, and Mr. Richman. The committee has extended Mrs. Dowling's work and is preparing to use this material in conjunction with the Ad Hoc Committee of Social Workers in the P.H.S. to attempt to effect a change in the present social work series by reviewing the material with our own Personnel Department and, ultimately, submitting it to the Civil Service Commission.

Other studies which have been initiated to improve service include Mrs. Bowles' study of NCI outpatient needs; Miss Carter's survey of discharge problems on NCI surgery and Mrs. Owen and Mr. Polcari's study, "Interruption." Dr. Conner has been most helpful in inplementing these studies by consultation on research methods.

PROGRESS

1. In reviewing program, it is apparent that the last several years have seen a progressively integrated practice and research effort.

There has been a marked increase, in the last year, in requests from investigators on medical Institutes for social work participation in studies of social functioning as it relates to disease process and also in studies of patient adjustment to setting.

The papers which have been presented, at the request of national health agencies, represent knowledge in depth of patient groups and social work practice.

Much of the progress evident can be traced to the social worker's motivation, which is increased by the interest of the medical staff, and to Dr. Conner's knowledgeable and generous contribution in helping the workers in the design aspects of their studies.

2. There has been a notable increase in interchange among the different

divisions of the P.H.S. We have had the opportunity to know more about Indian Health and to work more directly and effectively with that division, particularly in relation to Indian patients. The possibility of a career development program in group work is an exciting one, and one which can be attributed to discussions with the Heart Disease Control Program. As Community Health Services move into the area of demonstrated projects, we believe it will be important to foster more interchange with this program.

3. During the past year, eleven members of our staff were able to attend professional meetings. This represented considerable progress and has helped the Department to be well informed about trends in our profession. It has also given us an opportunity to carry on active recruiting at these meetings.

MAJOR PROBLEMS ENCOUNTERED

1. While we are pleased to have recruited five high-calibre staff members during the past year, we still have four vacancies which need to be filled as quickly as possible. In this connection, we urgently need to have authority to make commitments to the candidates who are presently interested in positions.

2. In order to recruit workers with the quality of experience necessary for positions in clinical social work research, we need to have a position established for an advanced caseworker, GS-11; otherwise, we are not able to compete with the voluntary agencies for good candidates.

3. The volume of outpatient visits has increased markedly and our present staffing pattern does not permit adequate coverage in this group, either in the Cancer or the Heart Institutes.

4. We still have problems in relation to special patient groups; for example, the Eskimo patients who are admitted come with very little preparation. Both our social workers and those in the Indian Health Service are handicapped because they do not have the opportunity to know something of these patients before they arrive. We hope to be able to work out an increasingly effective program with the Indian Health Service. We are also concerned about the families of the negro patients who are admitted to the Clinical Center. While the room registry has been brought up to date and is operating more efficiently, it does not provide suitable rooms in the area for negroes.

5. Like other Departments in the Clinical Center, we have a serious problem in space allotment. In order to accommodate the social workers on NCI, we have arranged to have three people in an office. The concern of the Department is that there is very little space available for privacy in interviewing patients and families.

6. We have asked for a review of the position classification of our secretarial staff. While it has been initiated, it has not been completed. It is important that this be pursued further since the secretarial group is assigned a considerable responsibility for a wide range of duties, without appropriate compensation.

FUTURE PLANS

1. We need to establish a position for a full-time research consultant in order to implement the kinds of studies in which social workers are participating.

2. We want to continue the series of administrative studies in order to provide an ongoing assessment of program, particularly in relation to services to patients and Department procedures.

3. We are most interested in reviewing position classifications with the Ad Hoc Committee of Social Workers in P.H.S., with our own Personnel Division, and, ultimately, with the Civil Service Commission.

4. We are planning an intensive recruitment program, to be accomplished by increasing our contacts with the schools of social work, and attending the most strategic professional meetings.

5. We will be working with Mr. Nye to develop guidelines for the relationships between the Social Service Department and the Normal Volunteer Patient Program.

Serial No. CC-21
Social Service Department
Cancer Social Service Section
Bethesda 14, Maryland

PHS-NIH
Individual Project Report
Calendar Year 1962

Part A

Project Title: Follow-up Study to Determine Parents' Reactions to Group Therapy Sessions.

Principal Investigator: Lawrence D. Burke

Other Investigators: None

Cooperating Units: Stress Study NIMH

Man Years: (calendar year 1962)
Total: 1/8th
Professional: 1/8th
Other: None

Project Description:

Methods Employed: A questionnaire was sent to each of the parents who had participated in the Group Sessions, after the death of their child and their return home. These questionnaires will be analyzed to evaluate the parents' perception of help, or the lack of help from the Group Sessions. The Group Leader will write up his opinion of the Sessions and these two sources of information will be compared.

Major Findings: None as yet. Fifty-four questionnaires have been sent out, forty-four have been returned. The return forms are being compiled and analyzed.

Serial No. CC-21
Social Service Department
Cancer Social Service Section
Bethesda 14, Maryland

PHS-NIH
Individual Project Report
Calandar Year 1962

Part A

Project Title: Referrals and Social Needs on the NCI Surgical Service

Principal Investigator: Rintha Carter

Other Investigators: None

Cooperating Units: None

Man Years: (calendar year 1962)
Total: 74 hours
Professional: 74 hours
Other: None

Project Description:

Objectives: To determine the kinds of needs for social services existing among a group of patients and who observes the existence of these needs in order to project a program for optimum social services on the Cancer Surgery Service.

Methods Employed: All referral sources over a six month period were categorized and tabulated according to needs. Definitions were based on a study reported by Kassebaum and Ullman in the Social Service Review of September 1961.

Major Findings: Eighty-six patients were referred for social services during the sample period. They represented sixty-five percent of admissions during the period. For this group there were one hundred and seventy-four referrals. Over half of these referrals were self-referrals from the patient himself. The next most frequent source of referrals was the surgeon. The greatest need was for medical casework and the next greatest was for environmental help.

Proposed Course of Project: Data still under analysis refer to the question: Are there different variables acting among patients on whom multiple referrals were made as contrasted to patients who were referred only once?

Serial No. CC-21
Social Service Department
Cancer Social Service Section
Bethesda 14, Maryland

PHS-NIH
Individual Project Report
Calendar Year 1962

Part A

Project Title: Relationship Between Knowledge of the Focus of the Hospital and Frequency and Kind of Discharge Problems

Principal Investigators: Kathryn K. Himmelsbach, Geraldine Conner, Rintha Carter, Lawrence D. Burke

Other Investigators: None

Cooperating Units: None

Man Years (calendar year 1962)
Total: 1/24th
Professional: 1/24th
Other: None

Project Description:

Objectives: Interest in this study arose on the part of the Social Service Department staff of the National Cancer Institute, when in the course of its clinical work there appeared to be a direct relationship between discharge problems and the patient's lack of knowledge of the research nature of the hospital.

This study was devised to test the following hypotheses:

1. The patient who knows that the Clinical Center of the National Institutes of Health is a research hospital where the length of stay is contingent not only upon the patient's medical requirements, but also upon the requirements of the research project to which the patient is admitted, presents fewer discharge problems (from a social service viewpoint) than does the patient who does not know or is unclear about the research purpose of this hospital.

2. That the discharge problems that do occur are more complex in the group without knowledge of the research purpose of the hospital.

3. That discharge problems are more complex when discrepancies in interpretation (regarding the purpose of this hospital) have occurred between the referring physician and National Institutes of Health personnel.

Methods Employed: A two part schedule was designed, the first part to test the study group's state of knowledge about the focus of the hospital. This schedule was administered to the study group which consisted of all adult patients admitted to the National Cancer Institute for a period of six months from the date of initiation of the study. The sample, selected consecutively, consisted of 108 adult patients. The schedule was administered individually to each participant of the study group.

Patient Material: Adult patients admitted to the various inpatient units of NCI were used.

Major Findings: The data has been collected, categorized and analyzed. Statistical tests of the hypotheses have been completed. The hypothesis that number and complexity of discharge problems are related to lack of or distortion of knowledge of the research mission of the Clinical Center were rejected. A positive association was found between lack of home and financial resources and number and complexity of discharge problems.

Proposed Course of Project: A report of these findings is in draft form in preparation for publication.

Serial No. CC-21
Social Service Department
NIAID Social Service Section
Bethesda 14, Maryland

PHS-NIH
Individual Project Report
Calendar Year 1962

Part A

Project Title: Reactions of Patients Hospitalized on an Infectious Disease Service to the Experience of Isolation

Principal Investigator: Lucia N. Mason

Other Investigators: None

Cooperating Units: None

Man Years (calendar year 1962)
Total: 120 hours
Professional: 100 hours
Other: 20 hours

Project Description:

Objectives: This project is intended to provide both descriptive and subjective material on isolation as patients experience it, and to test certain hypotheses about factors enhancing or disrupting the patient's emotional adjustment to isolation.

Data are now being gathered from patient respondents on the NIAID. Findings are not yet ready.

Methods Employed: A questionnaire, a series of structured interviews on the hour-by-hour experience of being in isolation, as well as a final unstructured report by the patient on the various possible emotional impacts of isolation are the data-gathering devices used in this study. Material has been gathered from several respondents, and their adjustment to the isolation experience rated by the use of scales for use in the predictive section of the study.

Significance: While there has developed in the past several years a considerable body of literature on isolation experiences such as laboratory-induced sensory deprivation and social isolation experiences, there is still little literature to be found on the isolation experience in a clinical setting such as an infectious disease service. It is hoped this study may be of use to social workers and others who work with the isolated patient.

Serial No. CC-21
Social Service Department
Heart Social Service Section
Bethesda 14, Maryland

PHS-NIH
Individual Project Report
Calendar Year 1962

Part A

Project Title: An Evaluation of the Effectiveness of a Staff Educational Program Designed to Increase Worker Competence.

Principal Investigator: Barbara A. Murphy

Other Investigators: None

Cooperating Units: None

Man Years (calendar year 1962)
Total: 36 hours
Professional: 36 hours
Other: None

Project Description:

Objectives: To develop and test an instrument with which to assess the effectiveness of staff education programs which are focused on increasing specific areas of competence in the inexperienced professional caseworker. An evaluation of the effectiveness of the Casework Workshop as a training implement is being used for the pilot study.

Significance: There is a need to evaluate staff development programs in our Department and in the social work field as a whole. The profession stresses agency responsibility for postgraduate professional staff education, since social workers cannot fully encompass and integrate professional knowledge needed for competence in social agencies. As of this time the effectiveness of such educational programs in facilitating continued learning is unknown. This project is to attempt to assess effectiveness of the specific program.

Methods Employed: The Casework Workshop was selected as the staff education unit to be observed for this pilot study because it is a small homogeneous group specifically focused on learning a particular practice skill and the program is limited in time and scope.

Performance changes will be observed over time in the worker's ability to make early and accurate psychosocial diagnostic evaluation. This will be accomplished through the use of learning criteria, to assess performance specific to the diagnostic process. A schedule for abstracting the tape recordings of

the Casework Workshop sessions is used as the data collection instrument. The project design is still in the formulative stages.

Major Findings: None

Serial No. CC-21
Social Service Department
Heart Social Service Section
Bethesda 14, Maryland

PHS-NIH
Individual Project Report
Calendar Year 1962

Part A

Project Title: Study of Antioch College Normal Volunteer Patients in the National Heart Institute

Principal Investigator: Mr. Delbert Nye

Other Investigators: None

Cooperating Units: None

Man Years (calendar year 1962)
Total: 80 hours
Professional: 75 hours
Other: 5 hours

Project Description:

Objectives: This study aims to determine the adequacy of the preliminary orientation of the Normal Volunteer prior to their admission to the Clinical Center, and subsequent problems of adjustment they may have on the unit.

Methods Employed: A series of four questionnaires is used, two to be completed by the Normal Volunteer, one by nurses on the unit to which the volunteers are assigned and one by the clinical investigators who utilize these volunteers.

Patient Material: Approximately 10 to 14 Normal Volunteers from Antioch College.

Major Findings: None as yet. It is hoped that the results of this study will help to further develop the orientation and improve the inpatient planning for the Normal Volunteer.

The principal investigator has assumed duties as Chief of the Normal Volunteer Program. However, this study was initiated and designed while he was a member of the Clinical Center Social Service Department.

Serial No. CC-21
Social Service Department
NINDB Social Service Section
Bethesda 14, Maryland

PHS-NIH
Individual Project Report
Calendar Year 1962

Part A

Project Title: Changes in Vocational Status Occurring Among Persons Experiencing Eye Disease

Principal Investigator: Shirley Owen

Other Investigators: None

Cooperating Units: None

Man Years (calendar year 1962)
Total: 150 hours
Professional: 150 hours
Other: None

Project Description:

Objectives: Basic objectives are to ascertain: 1) kinds of employment found among patients at different degrees of vision loss resulting from eye disease, 2) nature of vocational changes attributed by patients to eye disease, 3) relationships between these changes and characteristics of eye diseases and patients' expressed attitudes toward disease.

Patient Material: Material is being taken from records obtained on adult patients known to the investigator in providing casework services to persons hospitalized on Ophthalmology Service, NINDB.

Proposed Course of Project: Data from 204 medical and social case records has now been coded and tabulated. Preliminary work suggests there are some interesting correlations between level of visual acuity and changes in employment status. Further analysis is in process.

Serial No. CC-21
Social Service Department
The Clinical Center
Bethesda 14, Maryland

PHS-NIH
Individual Project Report
Calendar Year 1962

Part A

Project Title: Staff Project on Loneliness of Family Members

Principal Investigators: John Roatch, Lilian Scherp

Other Investigators: None

Cooperating Units: None

Man Years (calendar year 1962)
Total: 291 hours
Professional: 291 hours
Other: None

Project Description:

Objectives: The objectives were to conceptualize loneliness; study the effects of loneliness on the patient and his spouse caused by prolonged separation due to hospitalization; and eventually to methods for alleviating the loneliness of hospitalized patients and their spouses through casework treatment.

Methods Employed: Research data were obtained from structured interviews with patients' spouses and professional social work staff.

Major Findings: A major focus of these interviews was to obtain data enabling us to define and conceptualize loneliness as follows: "Loneliness is a psychological state of mind characterized by subjective feeling of inner emptiness and longing for a desired person or familiar surroundings." Other important findings are that the loneliness of family members is most effectively alleviated by consciously increasing activity, frequent communications with the patient, discussing feelings of loneliness with others, and knowledge that the patient is receiving good medical care.

Serial No. CC-21
Social Service Department
NINDB Social Service Section
Bethesda 14, Maryland

PHS-NIH
Individual Project Report
Calendar Year 1962

Part A

Project Title: The Social Functioning of Patients After Temporal Lobe Excision for Epilepsy

Principal Investigators: Robert Savard, Evelyn Walker

Other Investigators: None

Cooperating Units: Surgical Neurology Branch, NINDB

Man Years (calendar year 1962)
Total: 1/5 man years
Professional: 1/5 man years
Other: None

Project Description:

Methods Employed: Former patients who had undergone a partial or complete excision of a temporal lobe as treatment for psychomotor seizures were interviewed between two and five years after surgery to determine what, if any, change in their social functioning since surgery was identified by them. A two part interview was used; one part unstructured and one part structured. In half of the cases relatives were available and were also interviewed by the same method as a validity check.

Patient Material: Thirty-nine patients who had returned for follow-up examination were used.

Major Findings: Analysis of data has been completed. Findings are:

1. On the average the degree to which overall social functioning improves is related to the degree of treatment success as manifested by decrease in seizure frequency or a change in the nature of the attack to a less incapacitating form.

2. Seizure frequency, the sole criterion of surgical treatment success in most other studies, does not by itself give an adequate indication of positive treatment results as measured by improved postsurgical social functioning.

3. The areas of most frequent changes in social functioning cited were improved self-esteem and greater involvement in activities outside the home. Improvement in home-centered activities was less frequently cited.

4. Most patients in this series did not have postsurgical social and psychological therapy available to them in their home communities. It is hypothesized, therefore, that in spite of inadequate social performance for many years preoperatively, these subjects had nonetheless matured in social role orientation. With an improvement in seizure manifestation, they began spontaneously to perform on a more adequate social level.

5. It is further hypothesized that the rise in self-esteem is related to the more adequate correspondence between social performance and social role orientation. Theoretical formulations posited by Erickson related to the establishment of self-identity could offer an explanation for these findings.

6. It is generally concluded that the primary impediment to more adequate social functioning among these subjects, preoperatively, was the seizures and possible behavioral concomitants of cerebral dysrythmia whether or not neurotic tendencies existed. This conclusion is supported by the finding that in the group who derived no benefit from surgery, practically no improvement in social functioning was reported. The magnitude of improved functioning in the remaining subjects increased as treatment success increased. A report of these findings is being prepared for publication.

Serial No. CC-21
Social Service Department
NIAMD Social Service Section
Bethesda 14, Maryland

PHS-NIH
Individual Project Report
Calendar Year 1962

Part A

Project Title: Social Functioning in Families of Children with Cystic Fibrosis

Principal Investigator: Juanita Turk

Other Investigators: Geraldine Conner

Cooperating Units: None

Man Years (calendar year 1962)
Total: 30 hours
Professional: 30 hours
Other: None

Project Description:

Objectives: This project is designed to use a self-administering questionnaire and to utilize parents whose child/children are in the Clinical Center or being seen in the Outpatient Clinic. By the method employed it is hoped to gain understanding of the many emotional, economic, and physical problems that are inherent with a diagnosis of Cystic Fibrosis, a chronic, fatal disease. It is expected that this knowledge will assist the staff in working with these families and also -- as there is so little in the literature on this specific illness -- it is hoped that it will assist others in their understanding of family problems.

Still in the process of collecting data.

Serial No. CC-21
Social Service Department
NINDB Social Service Section
Bethesda 14, Maryland

PHS-NIH
Individual Project Report
Calendar Year 1962

Part A

Project Title: Interruption Study

Principal Investigators: Evelyn Walker, Shirley Owen, Lilian Scherp, A. Robert Polcari

Other Investigators: None

Cooperating Units: None

Man Years (calendar year 1962)
Total: 350 hours
Professional: 350 hours
Other: None

Project Description:

Objectives: The purpose of this study was to determine whether a problem existed in the time scheduling of combined casework-research activities of the caseworker on NINDB. Our experience suggested that time periods allotted to research work were subject to interruptions from telephone calls, etc., related to other responsibilities. Our interest was to determine the frequency and form of these interruptions; the extent to which these interruptions related to matters taking precedence over the research work, such as need for immediate service to a patient; and the effects of the interruptions in terms of time lost and ability of the worker to resume the research work within the time allotted.

Methods Employed; Two schedules were devised (the second a revision of the first) and used among the NINDB social service staff for six weeks, listing the number, kind, duration, and nature of the interruptions, and the allotted time for research, as well as time lost to research by interruptions; exploration was made as to protective devices that might be set up to curb unnecessary interruptions.

Major Findings: At this point it can be said that interruptions do occur but take a relatively small percentage of time away from research. The most common form of interruption is the phone call. Interruptions are less likely to occur when the research activity time is pre-scheduled and when some form of protection is set up (such as alerting the secretary to intercept calls unless they are urgent). Many of the interruptions can be delayed without jeopardizing patient

service, and notifying the secretary to intercept potential interruptions, unless urgent, seems to be the most effective method.

The final report of findings is nearing completion.

Serial No. CC-21
Social Service Department
The Clinical Center
Bethesda 14, Maryland

PHS-NIH
Individual Project Report
Calendar Year 1962

Part A

Project Title: A Study of the Patient's Attempt to Persist in His Significant Family Role During Long-Term Hospitalization

Principal Investigator: Ellen J. Walsh, Project Director

Other Investigators: (Primary Investigators: Jessie Dowling, Barbara Murphy, Geraldine Conner, Robert Savard, Shirley Owen, Joel Vernick, and Paul Blank) This is a Social Service Department project. In addition to the investigators named above, every member of the staff on duty from January through June 1962, participated in interviewing for the project.

Man Years (calendar year 1962)
Total: 600 hours
Professional: 600 hours
Other: None

Project Description:

Objectives: To test the hypothesis derived from clinical experience and an exploratory study, that the adult patient who is hospitalized thirty days or over and is a member of a nuclear family tends to attempt to maintain in the hospital whatever role and/or roles in the family he perceives to be his significant contribution to the welfare of the family unit.

Significance: If our study indicates that this phenomenon does exist, it can provide at the point of admission and/or referral, a "new and, possibly, more accurate pair of glasses," with which to assess and predict more quickly and validly the import of the hospitalization experience for the patient as a member of the family unit.

If we are clear early in the patient's stay about what he considers his crucial function in the family, we can work with him toward carrying out the task in the most comfortable way in terms of his physical condition and the medical research problem, or we may work with the patient toward modifying his task in order to fit in with his responsibilities as a patient. This approach reinforces his worth as a contributing member of the family and provides for his optimum participation in the medical and/or research plan.

Methods Employed: A structured questionnaire was chosen as the research instrument. The questions were constructed primarily to determine the extent

to which a patient persists in performing in the hospital what he perceives to be the three most important tasks (as indicators of role) he performs for his family when he is at home. The tasks elicited were those performed for the welfare, benefit, or maintenance of the family as an ongoing unit. The measure of persistence was determined by the use of an accompanying ordinal scale of task performance scored by the interviewer from information given by the patient respondent.

Beginning March 1, 1961, 100 adult patients (from all Institutes except Mental Health) who had been in the Clinical Center for one month were interviewed. An additional 25 patients were interviewed by two interviewers as a reliability check.

Major Findings: The data is now being tabulated and analyzed.

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Social Service Department
NIAMD Social Service Section
Bethesda 14, Maryland

PHS-NIH
Individual Project Report
Calendar Year 1962

Part A

Project Title: Predictive Factors in Initial Case Work Interviews of Success or Failure on an Outpatient Calorie Restrictive Regimen for Purpose of Losing Weight

Principal Investigator: Myrna Weissman

Other Investigators: None

Cooperating Units: None

Man Years (calendar year 1962)
Total: 60 hours
Professional: 60 hours
Other: None

Project Description:

Objectives: A detailed psycho-social history in one or two interviews has been obtained by the social worker on every patient admitted to the Outpatient Obesity Clinic for study. The primary purpose of these interviews has been to acquire an understanding of the patient's personality and attitudes, and his background, as they might relate to his problem of obesity. An ego assessment of the patient's motivation and capacity for change, i.e., losing weight, was made on the basis of his past social functioning as reflected in the initial social history interviews. No further casework services were offered. After a substantial period of time, to be determined, a comparison between worker's prediction and actual results on regimen will be made. An attempt will be made to define any consistent personality and social factors which could contribute to success or failure on the regimen and which could be used as a basis for prediction in future cases.

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Part B

Publications

1. Paul Blank, "Improvisations as a Method of Observing Couple Interaction." Movie produced by the Child Research Branch, NIMH. Presented before International Seminar for Family Studies, Washington, D.C., August 1962.

2. Roberta Peay, "For Patients with HeartDisease." Pamphlet published by DHEW, PHS, NIH, June 1962.

Papers Accepted for Publication

1. Betty Basamania, "The Study and Treatment of the Mother of Monozygotic Quadruplet Girls, All with a Diagnosis of Schizophrenia." To be included in NIMH Monograph.

2. Paul Blank (co-author), "Social-Psychological Characteristics of Old Age." To be included in an NIMH Monograph in Aging.

3. Stanley Hirsch, "The Study and Treatment of the Father of Monozygotic Quadruplet Girls, All with a Diagnosis of Schizophrenia." To be included in an NIMH Monograph.

4. Elizabeth Murphey (co-author), "Development of Autonomy and Parent-Child Interaction in Late Adolescence." Accepted for publication by the Journal of Orthopsychiatry.

5. Walter Sceery, "Follow-Up Study of Treatment Results of a Residential Treatment Program." To be published in an NIMH Monograph.

Papers Submitted for Publication

Geraldine Conner, " A Study of Indices of Competence Used by Supervisors to Evaluate Casework Performance."

Papers Presented

1. Paul Blank, "A Method of Assessing Coping Patterns of Newly Married Couples." Presented to Annual Meeting of Chiefs of State Mental Health Programs, Washington, D.C., May 1962.

2. Carmen Cabrera, "A Project on Difficulties in Growth and Adaptation in Adolescent Personality Development." Presented to Annual Meeting of Chiefs of State Mental Health Programs, Washington, D.C., May 1962.

3. Geraldine Conner, "Creativity and Social Work Research." Presented to Workshop on Social Work Research in Clinical Settings, Metropolitan Washington

Chapter, National Asscciation of Social Workers, Bethesda, Maryland, March 1962.

4. Jessie Dowling, "The Contribution of the Social Worker in a Special Treatment Center." Presented at Meeting on Care of Arthritics, sponsored by National Foundation, Warm Springs, Georgia, October 1962.

5. Robert Mahon, "A Study of the Relative Importance of Primary Behavior Patterns and Early Experiences in Child Development." Presented to Annual Meeting of Chiefs of State Mental Health Programs, Washington, D.C., May 1962.

6. Lucia Mason, " The Development of a Project to Study Adjustment to Isolation." Presented to Workshop on Social Work Research in Clinical Settings, Metropolitan Washington Chapter, National Association of Social Workers, Bethesda, Maryland, March 1962.

7. Roberta Peay, "What Does Hospital Social Service Offer and What are the Strategic Points at which Social Work is Important?" Presented at the Meeting of Medical Social Work Consultants in Health and Medical Care Programs, New York, May 1962.

8. John Roatch, "A Project on Biochemical and Behavioral Factors in Depression." Presented at Annual Meeting of Chiefs of State Mental Health Programs, Washington, D.C., May 1962.

9. John Roatch and Lilian Scherp, "The Development of a Project to Study Loneliness." Presented to Workshop on Social Work Research in Clinical Settings, Metropolitan Washington Chapter, National Association of Social Workers, Bethesda, Maryland, March 1962.

10. Robert Savard, "Uncertainty and Social Work Research." Presented to Workshop on Social Work Research in Clinical Settings, Metropolitan Washington Chapter, National Association of Social Workers, Bethesda, Maryland, March 1962.

11. Evelyn Walker, "Attaining Maximum Social Recovery in Patient Care." Presented to Baltimore Chapter, National Association of Social Workers, April 1962.

12. Ellen Walsh, "Combining Research with Social Work Practice - A Department Experience." Presented to Workshop on Social Work Research in Clinical Settings, Metropolitan Washington Chapter, National Association of Social Workers, Bethesda, Maryland, March 1962.

Papers Accepted for Presentation

1. Paul Blank, "Improvisations, Experimentally Induced Conflict Situations." Accepted for presentation at American Psychiatric Association, 1963 Annual Meeting, May 6-10, St. Louis, Missouri.

2. John Roatch (co-author), "A Behavioral and Endocrinological Study of Severe Depressive Crises." Accepted for presentation at American Psychiatric Association, 1963 Annual Meeting, May 6-10, St. Louis, Missouri.

PROFESSIONAL ACTIVITIES

Mr. Paul Blank

Member, Review Committee on State Merit Board Examinations
Department of Health, Education, and Welfare

Mr. Lawrence Burke

Member, National Association of Social Workers
Washington Metropolitan Chapter

Mrs. Carmen Cabrera

Consultant, Federal Housing Authority and D.C. Department of Public Welfare
on Research Project, "Rehabilitating D.C. Public Assistance Recipients."

Member, Review Panel
Report of D.C. Southwest Project
Federal Housing Authority and D.C. Department of Public Welfare

Consultant, Mental Health Bureau
D.C. Department of Public Health
"Problems of Adolescents"

Gave Consultation to Housing Authority on a Program of Counselling for the
Managers of the Housing Project

Mr. David Callagy

Member, Recruitment Committee
National Association of Social Workers
Washington Metropolitan Chapter

Dr. Geraldine Conner

Member, National Association of Social Workers
Washington Metropolitan Chapter

Member, Crises Committee on Public Welfare in District of Columbia
National Association of Social Workers
Washington Metropolitan Chapter

Miss Rintha Carter

Member, Personnel Practices Committee
National Association of Social Workers
Washington Metropolitan Chapter

Mr. Thomas Gallagher

Member, National Association of Social Workers

Professional Activities (continued)

Mrs. Kathryn K. Himmelsbach

Member, National Association of Social Workers
Washington Metropolitan Chapter

Mr. Stanley Hirsch

Member, Social Work Examination Review Board on State Merit Systems
Department of Health, Education, and Welfare

Member, Technical Advising Committee
Jewish Social Service Agency
Washington

Consultant, Montgomery County Association for Mental Health Survey on
Residential Referrals

Member, National Association of Social Workers
Washington Metropolitan Chapter

Miss Carol Hoover

Crisis Committee on Public Welfare in D.C.
National Association of Social Workers
Washington Metropolitan Chapter

Mrs. Dorothy Kuhl

Member, National Association of Social Workers
Washington Metropolitan Chapter

Mrs. Joan Maguire

Member, National Association of Social Workers
Washington Metropolitan Chapter

Mr. Robert Mahon

Member, Steering Committee
Montgomery County Health Association

Member, Rehabilitation Committee
Montgomery County Health and Welfare Council

Consultant, District of Columbia and Prince George's County
Mental Health Association on "Establishing Rehabilitation Centers"

Director, Montgomery Center for Discharged Mental Patients
Montgomery County, Maryland

Professional Activities (continued)

Gave a talk to Educators from the Eastern Seaboard Universities on the Married Couples and Nursery School Projects

Mrs. Lucia Mason

Secretary-Treasurer, Medical Social Work Section
National Association of Social Workers
Washington Metropolitan Chapter

Miss Barbara Murphy

Member, Committee on Policy Recommendations and Nominating Committees
Medical Social Work Section
National Association of Social Workers
Washington Metropolitan Chapter

Mrs. Dorothy Oberdorfer

Committee on Standards for Private Practice
National Association of Social Workers
Washington Metropolitan Chapter

Miss Roberta Peay

Member, National Association of Social Workers
Washington Metropolitan Chapter

Mr. Anthony Polcari

Member, National Association of Social Workers
Washington Metropolitan Chapter

Mr. Harold Richman

Member of Committees on Recruitment and on Public Welfare
National Association of Social Workers
Washington Metropolitan Chapter

Mr. John Roatch

Member, Committee on Social Work Curriculum Study
National Association of Social Workers
Washington Metropolitan Chapter

Miss Belvin Rollins

Member, Delegate Assembly Review Committee
National Association of Social Workers
Washington Metropolitan Chapter

Professional Activities (continued)

Mr. Robert J. Savard

Chairman, Nominating Committee
Medical Social Work Section
National Association of Social Workers
Washington Metropolitan Chapter

Member, Nominating Committee
Medical Social Work Section
National Association of Social Workers

Vice-President, Board of Montgomery County Family and Children's Service

Member, Committee on Family and Child Welfare
Montgomery County Unit
Health and Welfare Council of Metropolitan Washington

Member, Research Section
National Association of Social Workers
Washington Metropolitan Chapter

Mr. Walter Sceery

Member, National Association of Social Workers
Washington Metropolitan Chapter

Co-ordinated and participated in a program on National Institute of Mental Health for Voice of America

Mrs. Juanita Turk

Member, Recruitment Committee
National Association of Social Workers
Washington Metropolitan Chapter

Mr. Joel Vernick

Member, Group Work, Psychiatric and Research Sections
National Association of Social Workers
Washington Metropolitan Chapter

Miss Evelyn Walker

Member, National Association of Social Workers
Medical Social Work Section
Washington Metropolitan Chapter

Member, Columbia Hospital Board, Washington

Professional Activities (continued)

Miss Ellen J. Walsh

Member, National Education and Practice Committee
Medical Social Work Section
National Association of Social Workers
1959 - 1963

Member, Subcommittee on the "Study of Intervention"
National Practice Committee
Medical Social Work Section
National Association of Social Workers - 1962

Member, Task Force on Fields of Practice
Medical Social Work Section
Commission on Social Work Practice
National Association of Social Workers
1962 - 1963

Educational Director, Medical Social Work Section
Regional Institute Program
National Association of Social Workers
October 1961

Committee to Develop a Guide to Recordkeeping in Mental Hospitals
Consultation Section
Biometrics Branch
National Institute of Mental Health

Awards Board, National Institutes of Health

Crisis Committee on D.C. Public Welfare
Metropolitan Chapter
National Association of Social Workers
October - December 1962

Instructor, Seminar on "Theory of Supervision"
Catholic University
October 1962 - January 1963

Lecturer, "The Meaning of Illness"
American National Red Cross Training Center
October 1963

Civil Service Rating and Review Board
Clinical Social Workers
United States Public Health Service

Professional Activities (continued)

Mrs. Myrna Weissman

Member, National Association of Social Workers
Medical Social Work Section
Washington Metropolitan Chapter

Mrs. Charlotte Wilkie

Member, Education Committee
National Association of Social Workers
Washington Metropolitan Chapter

Member, Recruitment Committee
National Association of Social Workers
Washington Metropolitan Chapter

Member, Family and Child Welfare Committee
National Association of Social Workers
Washington Metropolitan Chapter

Member, Board and Education Committee
Montgomery County Mental Health Association

Chairman, Speakers Bureau
Montgomery County Mental Health Association

Delegate, Health and Welfare Council
Montgomery County Mental Health Association

Member, Health Conference
Health and Welfare Council
National Capitol Area

MEETINGS ATTENDED

Mrs. Carmen Cabrera

National Conference on Social Welfare, New York

Dr. Geraldine Conner

Council on Social Work Education, St. Louis

Miss Rintha Carter

National Conference on Social Welfare, New York

American Sociological Association, Washington

Meetings Attended (continued)

International Conference on Social Welfare, Rio de Janeiro

Annual Conference of Maryland, D.C., and Delaware Hospital Association, Washington

Mrs. Kathryn K. Himmelsbach

American Sociological Association, Washington

Annual Conference of Maryland, D.C., and Delaware Hospital Association, Washington

Interagency Services Conference
Health and Welfare Council of Metropolitan Washington

Mr. Stanley Hirsch

National Association for Mental Health, Miami

National Conference on Social Welfare, New York

Mrs. Dorothy Kuhl

Institute on Family Casework Diagnosis
University of Maryland School of Social Work, Baltimore

Mrs. Lucia Mason

National Conference on Social Welfare, New York

Observed Group Work Program in Pediatric Service, Boston Hospital, Boston

Miss Barbara Murphy

Annual Meeting, Family Service Association of America, New York

Fiftieth Anniversary, New York Hospital Social Service Department, New York

Mrs. Dorothy Oberdorfer

Chestnut Lodge Annual Symposium, Rockville

Miss Roberta Peay

American Public Health Association, Miami

Medical Social Consultants in Health and Medical Care Program, New York

Mr. Harold Richman

Meetings Attended (continued)

Two-day Institute on Ego-Supportive Casework in Cleveland, Ohio

National Conference on Social Welfare, New York

Miss Belvin Rollins

National Conference on Social Welfare, New York

American Sociological Association, Washington

Annual Conference of Maryland, D.C., and Delaware Hospital Association, Washington

Mr. Robert J. Savard

Council on Social Work Education, St. Louis

National Conference on Social Welfare, New York

American Sociological Association, Washington

Mrs. Juanita Turk

National Conference on Social Welfare, New York

Institute on Family Casework Diagnosis
University of Maryland School of Social Work, Baltimore

Mr. Joel Vernick

Observed Group Work Program in Pediatric Service, Boston Hospital, Boston

Discussant on Study and Treatment of Delinquents
Maryland Association of Probation Officers, Baltimore

Miss Evelyn Walker

National Conference on Social Welfare, New York

Miss Ellen J. Walsh

National Conference on Social Welfare, New York, 1962

Princeton Seminar on Public Health Content in Social Work Education, March 1962

Mrs. Myrna Weissman

Institute on Family Diagnosis
University of Maryland School of Social Work, Baltimore

Meetings Attended (continued)

Discussant on Facilities for Retarded Children in Great Britain, President's Panel on Mental Retardation, Washington

Mrs. Charlotte Wilkie

National Conference on Social Welfare, New York

TABLE NO. I
Social Services for In-Patients
Fiscal Year 1962*

| Month | NCI | NHI | NIAMD | NIDR | NIMH | NINDB | NIAID | Total |
|---|---|---|---|---|---|---|---|---|
| 1961 July | 581 | 976 | 398 | | 544 | 259 | 143 | 2901 |
| August | 666 | 962 | 501 | | 513 | 354 | 125 | 3121 |
| Sept. | 634 | 951 | 372 | | 412 | 261 | 88 | 2718 |
| Oct. | 709 | 1033 | 234 | | 475 | 340 | 173 | 2964 |
| Nov. | 681 | 1262 | 281 | | 593 | 339 | 131 | 3287 |
| Dec. | 672 | 1042 | 376 | | 754 | 341 | 197 | 3382 |
| 1962 Jan. | 617 | 1310 | 238 | | 1245 | 371 | 156 | 3937 |
| Feb. | 675 | 1263 | 293 | | 1257 | 308 | 68 | 3864 |
| March | 677 | 1462 | 302 | | 1215 | 353 | 129 | 4138 |
| April | | | | | | | | |
| May | | | | | | | | |
| June | | | | | | | | |
| TOTAL | 5912 | 10261 | 2995 | | 7008 | 2926 | 1210 | 30312 |

* Because of lag in Data Processing, reports have been received for only the first three quarters of fiscal year 1962. The projected total for 12 months is 40,400 interviews. This represents an increase of about 5,000 interviews over fiscal year 1961.

TABLE NO. II
Patients in Follow-Up Status
Fiscal Year 1962

| Month | NCI | NHI | NIAMD | NIDR | NIMH | NINDB | NIAID | Total |
|---|---|---|---|---|---|---|---|---|
| 1961 July | 53 | 12 | 7 | | 9 | 14 | 7 | 102 |
| Aug. | 50 | 5 | 4 | | 3 | 9 | 5 | 76 |
| Sept. | 15 | 6 | 8 | | 3 | 6 | 5 | 43 |
| Oct. | 27 | 12 | 5 | | 6 | 13 | 2 | 65 |
| Nov. | 37 | 11 | 3 | | 4 | 7 | 2 | 64 |
| Dec. | 31 | 11 | 1 | | 8 | 2 | 7 | 60 |
| 1962 Jan. | 13 | 11 | 5 | | 6 | 5 | 5 | 45 |
| Feb. | 7 | 11 | 4 | | 12 | 5 | 2 | 41 |
| March | 15 | 8 | 1 | | 15 | 4 | 1 | 44 |
| April | | | | | | | | |
| May | | | | | | | | |
| June | | | | | | | | |

TABLE NO. III
Group Activity Report
Fiscal Year 1962

| | RESEARCH ACTIVITIES | | PRACTICE-PROGRAM ACTIVITIES | | SOCIAL SERVICE DEPARTMENTAL ACTIVITIES | | COMMUNITY AND PROFESSIONAL ACTIVITIES | | CORPS, AND OTHER RELATED ACTIVITIES | | TOTAL HOURS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | HOURS | % | HOURS | % | HOURS | % | HOURS | % | HOURS | % | |
| NCI | 599 | 27 | 807 | 37 | 638 | 30 | 137 | 6 | 2 | .9 | 2183 |
| NHI | 573 | 17 | 1402 | 41 | 1158 | 34 | 209 | 6 | 39 | 1.0 | 3381 |
| NIMH | 6670 | 66 | 1671 | 17 | 1049 | 10 | 486 | 5 | 214 | 2.0 | 10090 |
| NIAMD | 130 | 15 | 526 | 59 | 194 | 22 | 40 | 4 | 3 | .3 | 893 |
| NIAID | 126 | 31 | 134 | 33 | 115 | 29 | 26 | 6 | 0 | 0 | 401 |
| NINDB | 503 | 34 | 467 | 31 | 361 | 24 | 123 | 8 | 42 | 3.0 | 1496 |
| TOTAL | 8601 | | 5007 | | 3515 | | 1021 | | 300 | | 18444 |

TABLE NO. IV

Patients' Welfare Fund Expenditures

Fiscal Year 1962

| | Patient Activities, Grey Ladies, O.T., etc. | Patient Transportation | Allowance to Relatives | Patients' Misc. Expenditures, Phone, Clothes, Meals, Special Devices, etc. | Basic Necessities | Total Withdrawn |
|---|---|---|---|---|---|---|
| July, 1961 | $ 60.32 | $ 3.00 | $ 556.30 | $ 502.25 | $ 306.34 | $ 1428.21 |
| August | 76.38 | 64.73 | 767.75 | 423.11 | 375.93 | 1707.92 |
| September | 121.66 | 21.00 | 253.52 | 510.47 | 190.97 | 1097.62 |
| October | 38.54 | 72.50 | 442.70 | 276.57 | 472.82 | 1303.13 |
| November | 90.00 | 198.72 | 762.00 | 741.57 | 376.25 | 2168.54 |
| December | 63.91 | 181.80 | 383.00 | 519.01 | 441.20 | 1588.92 |
| Jan., 1962 | 61.64 | 190.28 | 878.10 | 680.90 | 405.65 | 2216.57 |
| February | 29.98 | 42.39 | 804.50 | 76.80 | 235.52 | 1189.19 |
| March | 42.71 | 40.50 | 431.50 | 267.30 | 240.97 | 1022.98 |
| April | 477.82 | 135.90 | 660.95 | 378.08 | 456.78 | 2109.53 |
| May | 49.29 | 96.26 | 439.39 | 404.47 | 202.06 | 1191.47 |
| June | 32.07 | 231.50 | 431.20 | 105.43 | 350.59 | 1150.79 |
| TOTAL | 1144.31 | 1278.58 | 6810.91 | 4884.96 | 4055.10 | 18174.87 |

RECAPITULATION:

| | |
|---|---|
| Balance brought forward 7/1/61 | $ 6,972.98 |
| Fiscal Year 1962 Deposits | 12,669.40 |
| | 19,642.38 |
| Fiscal Year 1962 Withdrawals | 18,174.87* |
| Balance on Hand 6/30/62 | 1,467.51 |

*Of the total amount withdrawn, $2,781.00 was for purchase of supplies used by NIAID special volunteers and $411.50 was used to pay invoices for Christmas decorations and gift wrappings, etc.

PUBLIC HEALTH SERVICE, NATIONAL INSTITUTES OF HEALTH

ANNUAL REPORT
CLINICAL CENTER

CC-34
Serial No.

ANESTHESIOLOGY DEPARTMENT

As in previous years, the Anesthesiology Department was primarily concerned with providing anesthesia and related services for all Clinical Center patients. The administration of anesthesia and related supportive care for patients undergoing major operative surgery and diagnostic procedures requiring general anesthesia, with close surveillance of vital signs, were the major concern of anesthetist personnel. The conduct of inhalation therapy, which included the administration of oxygen, humidified atmospheres and aerosols, and techniques for maintaining and supporting respiratory function, was the responsibility of our Inhalation Therapy Section. In addition to these service functions, research studies were carried out by staff anesthesiologists. Clinical investigations of new anesthetic agents and techniques, collaborative work with investigators of NHI, NINDB, and NIDR, and the origination of a number of laboratory projects were included.

The full time staff consisted of several categories of professional, sub-professional, and clerical personnel. The numbers indicated below are based on the yearly average.

| | |
|---|---|
| *Clinical Anesthesiologists | 6 |
| **Visiting Program Anesthesiologist | 1 |
| ***Research Anesthesiologist | 1 |
| Nurse Anesthetists | 3 |
| Inhalation Therapists | 3½ |
| ****Extracorporeal Apparatus Technicians | 2 |
| Anesthesia Technicians | 2 |
| Secretaries | 2 |

Outside consultants' services were regularly utilized on an average of two and one half days per week as the surgical schedules required.

* Devoted minimum of one day per week to research.
** Devoted minimum of half time to laboratory duties, NINDB.
*** Assigned full time to Cardiology Branch, NHI, 6 months, and half time to Anesthesia Research Unit, 6 months.
**** Assigned to Anesthesiology Department for administrative purposes.

Anesthesiology Department

I. ANESTHESIOLOGICAL PROCEDURES. Anesthesia and supportive therapy were carried out in a total of 1292 instances for 875 surgical operations and 417 diagnostic procedures. In addition, diagnostic nerve blocks, consultations for respiratory and pain problems and emergency resuscitation measures performed outside of surgical areas totaled 72.

A large proportion of the relatively complex surgical operations and diagnostic procedures performed at the Clinical Center required the maintenance of anesthesia over unusually long periods of time. For example:

Anesthesia time exceeded 3 hours in 550 operations (42%)
Anesthesia time exceeded 5 hours in 258 operations (20%)
Anesthesia time exceeded 6 hours in 167 operations (13%)

Surgical operations were classified as follows, according to the type of surgery and the special adjunctive techniques were employed as indicated:

| | | |
|---|---|---|
| 1. | Thoracic (cardiac, pulmonary, great vessels, superficial chest) | |
| | a. extracorporeal circulation technique | 165 |
| | b. usual technique | 115 |
| 2. | Neurosurgical (brain and spinal cord) | |
| | a. hypothermia technique | 17 |
| | b. usual technique | 89 |
| 3. | General surgical (abdominal, pelvic and inguinal) | |
| | a. hypothermia technique | 1 |
| | b. usual technique | 82 |
| 4. | Kidney operations | 45 |
| 5. | Perineal (genito-urinary, gynecologic | 85 |
| 6. | Head, neck, and face | 80 |
| 7. | Eye, ear, nose, and throat | 22 |
| 8. | Dental (majority with detailed physiological monitoring) | 108 |
| 9. | Orthopedic | 38 |
| 10. | Miscellaneous procedures | 28 |
| | Total | 875 |

From the preceding tabulation, it can be seen that most of the surgery performed at the Clinical Center is concerned with such procedures as radical excision surgery for treatment of cancer of the pelvic organs and structures of the face and neck; cardiac surgery for correction of congenital and acquired defects with the aid of a pump oxygenator, so that the heart and lungs are bypassed during the period of definitive surgery; and surgery on the brain consisting of localization and removal of irritative foci as well as the removal of intercranial tumors with the aid of hypothermia. Included were 24 stereotaxic procedures for treatment of syndromes characterized by abnormal movements and rigidity. Operations entailing the use of extracorporeal circulation were carried out in 165 instances, whereas hypothermia techniques were employed in 17 operations. The preponderance of lengthy complex surgical procedures required the attendance of two professional anesthetists, and the services of trained anesthesia technicians were necessary for the operation of monitoring equipment and thermal devices. A relatively large number (108) of short duration dental procedures, where elaborate physiological monitoring was carried out, also required two anesthetists and one technician for their conduct.

Diagnostic studies done under anesthesia numbered 417. Many of the patients were small children who were unable to cooperate under local anesthesia. Methods of controlled sedation over periods of several hours were required for cardiac catheterization studies. Other tests done on adults required general anesthesia and complete muscular paralysis and respiratory control during selected periods. Since many of these patients were ill and the manipulations during the tests were capable of causing serious cardiac or respiratory reactions, special care was required in the anesthesiological management. Diagnostic tests done under general anesthesia are tabulated below:

| | | |
|---|---|---|
| Pneumoencephalograms | | 55 |
| Cerebral angiography | | 122 |
| Special eye or ENT examinations | | 2 |
| Cardiac catheterization procedures | | 166 |
| right heart catheterizations | 55 | |
| trans-septal or percutaneous left heart catheterization | 15 | |
| right heart catheterizations and angiography | 70 | |
| angiocardiography or aortography | 26 | |
| Cystoscopy | | 20 |
| Miscellaneous | | 52 |

Anesthesiology Department

The following table indicates the institutes responsible for surgical cases with whom we worked. The first four institutes listed have surgical services.

| Sponsoring Institute | Procedures | Percent |
|---|---|---|
| NHI | 521 | 40% |
| NCI | 282 | 22% |
| NINDB | 297 | 23% |
| NIDR | 104 | 8% |
| NIAMD | 54 | 4% |
| NIAID | 32 | 2% |
| NIMH | 2 | .02% |

Surgical and diagnostic procedures requiring the services of anesthetists were divided between the four Institute surgical services as follows:

| | Procedures | Percent |
|---|---|---|
| NHI | *499 | 39% |
| NCI | 371 | 29% |
| NINDB | **312 | 24% |
| NIDR | 110 | 8% |

II. INHALATION THERAPY ACTIVITIES. Inhalation therapy treatments were carried out by or under the direction of inhalation therapists. Consultation service was provided by an assigned anesthesiologist. The numbers and types of treatments during 1962 were:

| | |
|---|---|
| Oxygen therapy (tent, mask, catheter) | 8,770 hours |
| Humid atmosphere therapy | 79,696 hours |
| Aerosol therapy | 5,092 treatments |
| Intermittent positive pressure breathing with aerosols | 5,901 treatments |
| Long-term respiratory assistance | 4,553 hours |
| Short-term resuscitation | 296 hours |
| Administration of oxygen combined with other gases (carbon dioxide, helium) | 200 treatments |

A significant increase in the use of long-term respiratory assisting devices was noted during the year with the total number increasing from 2,265 hours to 4,553 hours. The marked increase in the number of patients undergoing open heart surgery (165 in 1962 as

* includes 166 cardiac catheterization procedures
** includes 177 radiographic diagnostic procedures

compared to 111 in 1961) and the trend toward the performance of operations of a more formidable nature, in which complete replacement of heart valves are becoming more common, accounted for the use of respiratory assisting devices over relatively long periods of time. There was also a noteworthy increase in the administration of aerosolized medications by means of intermittent positive pressure breathing devices (5,901 treatments as compared to 2,567 treatments in 1961).

The increased emphasis upon the employment of respiratory assisting equipment severely taxed the efforts of the relatively few inhalation therapists we have on our staff. Frequent calls for emergency assistance after regular working hours necessitated an unusual amount of overtime work by these employees. On occasion, it was necessary for them to maintain a 24-hour watch over equipment being used on critically ill patients. Since the Inhalation Therapy Section had only three trained therapists on duty, these extra hours of work constituted a real personal hardship in some instances.

Improved methods for cleaning and sterilization (by means of ethylene oxide) of nebulizing equipment were devised with the aid of Environmental Services Branch, DRS. The processing of these commonly employed humidification devices added considerably to the overall workload.

Special commendations from the Director, Clinical Center, were received by two employees, Mr. Delbert Evans and Mr. Keith Collett, in connection with their services to a child patient.

A total of 225 new employees of the Nursing Department attended regularly scheduled demonstration sessions for the purpose of acquainting them with inhalation therapy practices and equipment. Special demonstrations of tank respirators, intermittent positive pressure breathing devices, and techniques of exhaled air resuscitation were conducted for 116 other employees.

III. RESEARCH ACTIVITIES. Research activities consisted of clinical studies carried out on patients in collaboration with physicians responsible for their care and laboratory investigations in physical facilities provided by NINDB and NHI. Close cooperation between a number of our anesthesiologists who worked with physicians of the Surgical Neurology Branch, NINDB, Surgery Branch, NHI, and Cardiology Branch, NHI, have made it possible for our group to engage in laboratory research when not occupied with clinical patient care duties.

Anesthesiology Department

In July, a permanent staff member (Dr. D. H. Morrow) completed a 12 months' assignment with the Cardiology Branch of NHI where he had gained experience in laboratory methods and techniques.

In July 1962, an Anesthesia Research Unit was established through an agreement with the Surgical Branch of NHI. Physical laboratory facilities in Building 3 were made available by the Surgery Branch, NHI, for full time use by Anesthesiology Department investigators. This laboratory space has been utilized by two of our staff who are assigned to laboratory duties regularly on alternate days. The space has also been used by other staff members, on a less frequent basis. A summary of the investigative projects carried out during the year are given below. Individual project reports are attached for new projects which were initiated during the year in which Clinical Center anesthesiologists were the principal investigators.

1. General Anesthesia for Dental Outpatients. The long-range study concerned with the investigation of the physiological changes which occur during the use of various types of general anesthesia for office patients undergoing multiple dental extractions, was continued. A number of intravenous anesthetic agents have been studied during previous years in an effort to determine which was the most suitable for dental ambulatory patients. During the current year, studies were made on the effects of a new anesthetic agent, trifluoroethylvinyl ether (Fluoromar), in combination with small doses of intravenous barbiturates. Attention was also directed toward the refinement of the methods used to monitor blood pressure, pulse, arterial blood oxygen saturation, and other parameters which are measured continuously during anesthesia and surgery.

2. Blood Volume Determinations Before and After Extensive Cancer Surgery. A project for the study of patients' blood volumes pre and postoperatively, as a means of determining adequate blood replacement following surgical blood loss, was set up and was approved by the Radiation Safety Committee. Time and facilities did not permit a formal research project to be carried out. However, the project was utilized to improve the postoperative management of patients when it was indicated. This project will be expanded as soon as additional staff members are qualified to employ radioactive blood cell tagging techniques. (Dr. Goldberg and Dr. Rein)

3. A study to determine the physiological effects of various pharmacologic influences on the pressure-volume characteristics of a representative segment of the venous system of the dog was carried out in the Anesthesia Research Unit, referred to above. Project report is attached. (Dr. Morrow)

4. A study of the physical basis for the independence of pulmonary blood flow on pulmonary venous pressure under the conditions when the intra-pulmonary pressure exceeds the pulmonary venous pressure, is being done in collaboration with an investigator from the Cardiology Branch, NHI, with facilities provided by that unit. Our staff member is the principal investigator. Project report is attached. (Dr. Thomas)

5. The Effect of Anesthetic Drugs on Digatalis Toxicity. This study is being carried out by two of our staff members in the Anesthesia Research Unit. Project report is attached. (Dr. Morrow and Dr. Townley)

6. Cardiac Excitability in Man. Studies on cardiac excitability are being determined by ascertaining the response of the ventricle to threshold electrical stimuli presented at various times in the cardiac cycle. This study is being done on suitable patients during open cardiac surgery by two anesthesiologists, one from our group (principal investigator), another from NINDB, and the Chief of the Surgery Branch, NHI. Project report is attached.

7. The Chronotropic and Inotropic Effects of Halothane on Catecholamine Depleted Dogs. This study is being done with facilities provided by the Surgery Branch, NHI, in collaboration with one of their investigators and two of our group. Project report is attached. (Dr. Rein and Dr. Morrow)

8. The Incidence of Ventricular Fibrillation During Profound Hypothermia. During a series of 146 experiments on dogs, studies were made of the relationship between ventricular fibrillation and the anesthetic agent employed, depth of anesthesia, and technique of cooling. Deep anesthesia and sympathetic block protected against serious cardiac arrythmias produced by lower body temperatures. This project was done by two anesthesiologists, one from NINDB (principal investigator) and one of our staff. (Dr. Sprouse)

9. Studies on the effect of anesthetic agents and other drugs commonly employed during anesthesia and the effects of varying concentrations of arterial oxygen, carbon dioxide and pH on the electrical excitability of the ventricle of the dog's heart were carried out by a worker from NINDB (principal investigator) and one of our group. (Dr. Sprouse)

10. The effects of profound hypothermia on cerebral blood flow and vascular resistance in dogs were measured during hypothermia with and without sympathetic block by an NINDB worker (principal investigator) and one of our group. (Dr. Sprouse)

11. The effect of changes of arterial carbon dioxide concentration on the normal cerebral arteriogram of a group of patients with seizure disorders was studied by investigators from the Diagnostic X-ray Department, CC, (principal investigator) Surgical Neurology Branch, NINDB, and one of our staff. A study of the same nature on patients with suspected or known intracranial vascular anomalies will follow. (Dr. Thomas)

IV. MAJOR PROBLEMS ENCOUNTERED. As in previous years, our chief problems were concerned with recruitment of trained personnel and attainment of adequate Civil Service ratings for staff members who have specialized duties and responsibilities. Several of our activities were hampered by lack of space. Some aspects of these problems are discussed below.

A. Personnel recruitment

1. Anesthesiologists. Through the utilization of the CORD Program of the PHS, arrangements have been made which will insure a supply of trained anesthesiologists during the next few years. Rates of pay for commissioned medical officers and the lack of stable independent research facilities make it difficult for the Clinical Center to retain anesthesiologists after they have served their obligatory 2-year military duty. In order to maintain a cadre of qualified personnel capable of meeting the demands of the several surgical services at NIH, improvements in compensation and increased opportunities for research will have to be made in the near future. Otherwise, a deterioration in both numbers and quality of anesthesiologists at the Clinical Center can be anticipated.

2. Nurse anesthetists. Senior nurse anesthetists working at the Clinical Center have been trained to perform specialized duties in conjunction with the management of patients during extracorporeal circulation and hypothermic technique. In February 1962, position descriptions reflecting the nature and responsibilities of our nurse anesthetists were prepared for the purpose of having Civil Service grades allocated which would be truly realistic in relation to the work performance. Action on this matter has progressed very slowly. At best, it appears that we will be able to achieve only a single grade promotion for nurse anesthetist

specialist category (GS-9 to GS-10) and a two grade higher rating for the nurse anesthetist supervisor (GS-9 to GS-11).

3. Inhalation therapists. Continuing difficulties are encountered in attracting either trained therapists, or persons with suitable background and intellectual capacity as trainees for these positions. Currently, we are initiating personnel actions to increase the Civil Service grades allotted to trained inhalation therapists. These men perform relatively specialized duties. The patient's life often depends upon their skill in operating complex respiratory equipment. They are subject to call at all hours for emergency assistance. The Civil Service grades, GS-7 for senior therapist and GS-5 for fully qualified inhalation therapist, are not commensurate with their duties and responsibilities. During the past year, two of our inhalation therapists received special commendation for their efforts in carrying out long-term respiratory assistance therapy on critically ill patients. Earlier in this report, it has been noted that increased use is being made of specialized respiratory techniques, particularly in the postoperative care of patients who have undergone open heart surgery. It is hoped that we may be able to overcome the shortage of inhalation therapists if employment conditions are improved. Ideally, enough therapists should be available for round-the-clock coverage when patients requiring continuous respiratory support are under care.

4. Extracorporeal circulation apparatus operators. After considerable intensive efforts on the part of all concerned, improved Civil Service grades were secured for our two extracorporeal apparatus specialists. No problem exists in this area at present due to a series of fortuitous circumstances. Prospects for replacement of present personnel, however, are not encouraging.

5. Anesthesia technicians. After a long delay, two nursing assistants who had been assigned to us by the Nursing Department and who had been trained in specialized duties over a period of years, were transferred to our department. A slightly improved Civil Service grade was secured for these two employees, although it is not commensurate with the duties which they perform. Efforts are being made to rectify this situation.

6. Secretarial personnel. The replacement of a nurse anesthetist who was formerly concerned with the

handling of anesthesia records a good part of the time, by a second clerical worker aided greatly in providing us with additional anesthetist personnel. The acquisition of a second secretary in the office to transcribe scientific papers and handle incoming phone calls, many of which are concerned with urgent calls for professional assistance, increased overall efficiency.

B. Space

Some improvements took place in our space problem. The lack of laboratory facilities was partially overcome by the establishment of the anesthesia Research Unit sponsored jointly by NHI and the Anesthesiology Department, CC. Office space for anesthesiologists continued to be a problem, with the Associate Chief and six staff members occupying desks within the limits of the Main Surgical Suite. Two rooms in the new Surgical Wing became available for the storage and trial operation of clinical laboratory equipment. This space also served to alleviate the shortage of office space for our physician personnel.

## V. ARTICLES AND PRESENTATIONS

The names of Anesthesiology Department staff authors are underlined, and the specific institutes are indicated after the names of other investigators, in the following summary:

### A. Articles published

1. Galindo, A. H. (NINDB) and Davis, T. B.: Succinylcholine and cardiac excitability. Anesthesiology 23: 32-40, Jan.-Feb. 1962.

2. Goldberg, Alan H., Maling, Harriet M., and Gaffney, Thomas E. (NHI): Protection by digitalization against the negative inotropic effect of Halothane in dogs. Anesthesiology 23: 150-151, Jan.-Feb. 1962.

3. Goldberg, A. H., Maling, H. M., (NHI) and Gaffney, T. E. (NHI): The value of prophylactic digitalization in Halothane anesthesia. Anesthesiology 23: 207-212, March-April 1962.

4. Galindo, A. H. (NINDB) and Sprouse, J. H.: The effect of anesthesia on cardiac excitability produced by single pulse electrical stimulation--an experimental study. Anesthesia and Analgesia Current Researches 6: 659, Nov.-Dec. 1962.

5. Galindo, A. (NINDB), Sprouse, J. H., Aubry, U., and Baldwin, M. (NINDB): Anesthesia and ventricular fibrillation in deep hypothermia. Proceedings of First European Congress of Anesthesiology, 1962.

6. Sprouse, J. H., Galindo, A. (NINDB), and Morrow, A. G. (NHI): Influence of various drugs and anesthetic agents on cardiac excitability in man. (In press.)

7. Galindo, A. (NINDB), Sprouse, J. H., and Baldwin, M. (NINDB): Cardiac excitability and internal carotid blood flow during epidural anesthesia in profound hypothermia. (In press.)

8. Morrow, D. H., Gaffney, T. E. (NHI), and Braunwald, E. (NHI): Studies digitalis VII: Influence of hyper and hypo[illegible]idism on the myocardial response to ouabain. (In press.)

9. Morrow, D. H., Gaffney, T. E. (NHI), and Braunwald, E. (NHI): Studies on digitalis VIII: Effect of autonomic innervation and of myocardial catecholamine stores upon the cardiac action of ouabain. (In press.)

10. Morrow, D. H., Gaffney, T. E. (NHI), Chidsey, C. H. (NHI): Reversal of reserpine induced myocardial catecholamine depletion by norepinephrine infusion: implications in anesthesiology. (In press.)

11. Gaffney, T. E. (NHI), Morrow, D. H., Chidsey, C. A. (NHI): The role of myocardial catecholamine in the response of tyramine. J. Pharmal. and Exper. Therap. 137: 301, Sept. 1962.

B. Presentations

1. Sprouse, J. H., and Galindo, A. (NINDB)
The Effect of Anesthesia on Cardiac Excitability Produced by Single Pulse Electrical Stimulation--An Experimental Study
Presented: Congress of the International Research Society, Miami, Fla., March 18-24, 1962.

2. Morrow, D. H., Gaffney, T. E. (NHI) and Chidsey, Charles (NHI)
Reversal of Reserpine Induced Myocardial Catecholamine Depletion by Norepinephrine Infusion: Implications in Anesthesiology
Presented: Congress of the International Research Society, Miami, Fla., March 18-24, 1962.

3. Sprouse, J. H., Galindo, A. (NINDB), Morrow, A. G. (NHI)
The Influence of Various Drugs and Anesthetic Agents on the Cardiac Excitability in Man
Presented: American Society of Anesthesiologists, New York City, October 21-26, 1962.

4. Sprouse, J. H. and Galindo, A. (NINDB)
Total Epidural Anesthesia during Hypothermia
Presented: American Society of Anesthesiologists, New York City, October 21-26, 1962.

5. Suutarinen, Toivo (Visiting Scientist)
Pediatric Anesthesia in Finland
Presented: Tri-State Society of Nurse Anesthetists, Washington, D. C., October 15, 1962.

6. Christenson, G. R.
Physiological Changes in Patients undergoing Dental Surgery with General Anesthesia
Presented: Tri-State Society of Nurse Anesthetists, Washington, D. C., October 15, 1962.

7. Morrow, D. H.
The Autonomic Nervous System in Anesthesia
Presented: Annual Meeting of the Southern Medical Association, Miami, Florida, November 12-15, 1962.

8. Morrow, D. H., Gaffney, T. E. (NHI), Braunwald, E. (NHI)
Effect of Autonomic Innervation and Myocardial Catecholamine Stores Upon the Cardiac Action of Ouabain
Presented: Amer. Fed. of Exper. Biology, Atlantic City, N. J., March 1962.

9. Morrow, D. H., Gaffney, T. E. (NHI), Braunwald, E. (NHI)
Effect of Autonomic innervation and Myocardial Catecholamine Stores Upon the Cardiac Action of Ouabain
Presented: Maryland-Virginia Heart Association, NIH, September 27, 1962.

10. Morrow, D. H., Gaffney, T. E. (NHI)
Influence of Hyper and Hypothyroidism on the Myocardial Response to Ouabain
Presented: Maryland-Virginia Heart Association, NIH, September 27, 1962

11. Morrow, D. H.
Antihypertensive Drugs and Anesthesia
Presented: Departments of Anesthesia, Surgery, and Internal Medicine, University of Virginia, December 1, 1962.

12. Morrow, D. H.
Role of the Autonomic Nervous System in the Action of Digitalis
Presented: Workshop Program of the American College of Cardiology, NIH, September 27-28, 1962.

13. Christenson, G. R.
Monitoring Safeguards during Extensive Pelvic Surgery
International College of Surgeons, New York City, September 10-12, 1962.

C. Neuroanesthesia Section of WORLD FEDERATION OF NEUROLOGY

The Clinical Center served as host for the first meeting of the Neuroanesthesia Section of the World Federation of Neurology which was held on April 8-9, 1962. The two-day scientific meeting was attended by approximately 80 anesthesiologists and neurological surgeons from various medical centers in the United States and Canada. Representatives from Belgium and Columbia were also present. The Assistant Director, Clinical Center, and the Special Events Section, CC, deserve considerable credit for making the necessary arrangements.

The Chief, Anesthesiology Department, CC, and Assistant Director, CC, served as chairmen for the scientific sessions. Speakers included representatives from Anesthesiology Department, CC, and Surgical Neurology Branch, NINDB.

D. Television Program (Video Tape)

A 16.5 minute television presentation depicting the positioning of an anesthetized patient preliminary to extensive pelvic surgery, and the monitoring safeguards employed during anesthesia and surgery was filmed on video tape through the combined facilities of the Television Engineering Unit, CC, National Naval Medical Center microwave relay equipment, and Walter Reed Medical Center video tape recording equipment. Chief participants in the film and authors of the script were Dr. C. L. Hebert and Dr. G. R. Christenson with the cooperation of other anesthetists, the Surgical Nursing Service, CC, and the Surgical Branch, NCI. Among the devices demonstrated were: a specialized drape screen rack for this particular type of surgery, devised by Miss Fitzwater, Chief,

Surgical Nursing Service, CC, and a simple manometer with disposable tubing for measurement of continuous external jugular venous pressures during surgery, devised by Dr. G. R. Christenson.

The video tape was presented on the Television Clinics program of the American Society of Anesthesiologists at the Annual Meeting in New York, October 25, 1962. The tape was also shown at the Postgraduate Assembly of the New York State Society of Anesthesiologists in New York in December 1962.

Serial No. CC-34

1. Anesthesiology Dept., CC
2. Bethesda, Maryland

PHS-NIH
Individual Project Report
Calendar Year 1962

Part A

Project Title: Cardiac Excitability in Man

Principal Investigator: James Henry Sprouse, M.D.

Other Investigators: A. G. Morrow, M.D. and A. Galindo, M.D.

Cooperating Units: Clinic of Surgery, National Heart Institute

Man Years (calendar year 1962)
Total: 0.2
Professional: 0.2
Other: 0

Project Description:

Cardiac excitability may be characterized by determining the response of the ventricle to threshold electrical stimuli presented at various times in the cardiac cycle. If the amplitude of current necessary to elicit a response is plotted as a function of the time delay from the previous R wave, the curve obtained is the strength-interval curve. From this, the periods of absolute refractoriness, relative refractoriness, and diastole are delineated. Many drugs have been shown to modify these variables in characteristic ways in experimental animals. Studies are being carried out in humans to supplement information obtained in animals. Drugs currently being studied are xylocaine, Pronestyl, epinephrine, nor-epinephrine, ouabain, and Fluothane.

Part B not included.

Serial No. CC-34
1. Anesthesiology Dept., CC
2. Bethesda, Maryland

PHS-NIH
Individual Project Report
Calendar Year 1962

Part A

Project Title: The Effect of Anesthetic Drugs on Digitalis Toxicity

Principal Investigator: Dean H. Morrow, M.D.

Other Investigators: Normand T. Townley, M.D.

Cooperating Units: National Heart Institute, Cardiovascular Laboratory

Man Years (calendar year 1962)
Total: 0.04
Professional: 0.04
Other: 0

Project Description:

There has been considerable controversy regarding the advisability of digitalizing patients with questionable cardiac reserve prior to the administration of anesthesia. There has been, however, no investigation to determine whether the type of anesthetic drug being administered to a specific patient has an influence on the dose of digitalis required when acute digitalization is required during the course of surgery. All general anesthetic drugs are known to result in some degree of depression of the myocardium, and one anesthetic compound, halothane, now in widespread usage has been reported as capable of producing "failure" of the myocardium. The present study was undertaken to determine whether or not comparable depths of anesthesia produced with various drugs would influence the toxic dose of ouabain.

It has been determined that in the intact dog anesthetized with Pentobarbital 50 mg/kg, a dose which will just abolish the inner canthal eyelid reflex, that 50 ug/kg of ouabain, administered as a continuous infusion, is required to produce multiple premature ventricular contractions. It has been further determined that in these same animals, anesthetized with one percent halothane-oxygen, after a one-week rest period, that the dose of ouabain required to produce similar ventricular toxicity is approximately 100 ug/kg. This is true regardless of which anesthetic drug is administered to the animal first.

Proposed course of project:

It is planned that this project will be extended to include comparison of the toxic doses of ouabain required in dogs anesthetized with relatively deeper levels of these anesthetic drugs. From these observations, it is anticipated that pertinent clinical implications may be drawn regarding the influence of the individual anesthetic drugs, and the dose of these drugs, on the response of the individual patient during acute digitalization in the operating room.

Part B not included.

Serial No. CC-34
1. Anesthesiology Dept., CC
2. Bethesda, Maryland

PHS-NIH
Individual Project Report
Calendar Year 1962

Part A

Project Title: Chronotropic and Inotropic Effects of Halothane upon Catecholamine Depleted Dogs

Principal Investigator: J. Rein, M.D.

Other Investigators: Gerald Austen, M.D.
Dean H. Morrow, M.D.

Cooperating Units: National Heart Institute

Man Years (calendar year 1962)
Total: 0.2
Professional: 0.2
Other: 0.0

Project Description:

The negative chronotropic effects of halothane, in the dog, has been shown to be a direct cardiac effect and that myocardial catecholamine depletion produced by chronic cardiac denervation does not increase the sensitivity of the heart to the negative inotropic effects of halothane. The present experimental undertaking was designed to present to a similar study, a clinically encountered situation, one in which the study dogs have had their catecholamine stores depleted by pharmacological agents -- reserpine and guanethedine.

Part B not included.

Serial No. CC-34
1. Anesthesiology Dept., CC
2. Bethesda, Maryland

PHS-NIH
Individual Project Report
Calendar Year 1962

Part A

Project Title: The Concept of Pulmonary Vascular Resistance Where Intra-alveolar Pressure Exceeds Pulmonary Venous Pressure

Principal Investigator: Lewis J. Thomas, Jr., M.D.

Other Investigators: Donald L. Fry, M.D.

Cooperating Units: Cardiology Branch, Section of Clinical Biophysics, NHI

Man Years (calendar year 1962):
Total: 0.2
Professional: 0.1
Other: 0.1

Project Description:

Objectives:

Critical evaluation of the contention concerning the most meaningful expression of pulmonary vascular resistance under conditions where intra-alveolar pressure exceeds pulmonary venous pressure: pulmonary arterial minus alveolar pressure divided by flow (the "waterfall" concept) versus the more conventional arterial minus venous pressure overflow.

Methods Employed:

A physical model designed to approach hydrodynamically an appropriate segment of the pulmonary vasculature is being used to achieve a first order approximation of flow behavior. Established techniques are used to control, vary, and record the pressure parameters and to observe flow as the variable. The behavior of the model will dictate what techniques will be necessary to pursue the problem in intact lungs, excised and in vivo.

Major Findings:

Previous work by the principal investigator as well as by others has shown that flow becomes independent of venous pressure when venous pressure is less than alveolar pressure. The model employed shows this behavior which is essential to but by no means proof of the "waterfall" concept.

Preliminary observations suggest that the character of the flow is such that it will be possible to quantitate energy losses across the system due to viscous and kinetic components. This will be necessary for evaluation of both expressions for resistance.

Significance:

When the pressure conditions mentioned above obtain for the lung, perplexing pressure-flow relationships (v.s) have been observed. This has prompted the "waterfall" hypothesis which is a disturbing departure from the conventional, yet somewhat chameleonic, concept of vascular resistance. If it can be established that there is a sound physical basis for this departure it will then represent a contribution to the understanding of the pulmonary circulation. If it should prove unsound it will represent a dangerous source of confusion.

Proposed course of project:

Further study of the physical model with subsequent evaluation of the feasibility of applying similar analysis to intact lungs.

Part B not included.

Serial No. CC-34
1. Anesthesiology Dept., CC
2. Bethesda, Maryland

PHS-NIH
Individual Project Report
Calendar Year 1962

Part A

Project Title: Effects of Modification of Venous Reactivity on Cardiovascular Dynamics: An Experimental Study in the Dog

Principal Investigator: Dean H. Morrow, M.D.

Other Investigators: George E. Pierce, M.D.

Cooperating Units: Clinic of Surgery, NHI

Man Years (calendar year 1962)
Total: 0.5
Professional: 0.25
Other: 0.25

Project Description:

The importance of the reactivity of the total venous system to an understanding of cardiovascular dynamics has been increasingly emphasized. Previous observations have been confined to an evaluation of the reactivity of isolated venous segments, or encumbered by unphysiological interventions such as cardio-pulmonary bypass. The present studies were undertaken to develop a method whereby the reactivity of a relatively large portion of the total venous bed could be assessed, and the influence of acute physiologic and acute pharmacologic interventions on this system evaluated.

It has been determined that rapid serial injections of blood into the proximal aorta result in a linear increase in inferior vena caval pressure if the injections are made during isolation of the circulation to the lower half of the animal by clamping the IVC at the diaphragm and the aortic proximal to the first intercostal artery. It is thus possible to describe pressure-volume relationships for the IVC in a "no flow" system. Since, it has been previously shown that the cavae represent non-reactive portions of the venous system, changes in caval pressure-volume relationships produced by physiologic or pharmacologic interventions are representative of changes in the peripheral, reactive portion of the venous bed. We have determined that adrenergic nervous system hyperactivity shifts the pressure-volume relationship upward

and to the left, while decreased adrenergic activity shifts it downward to the right. Adequate, accurate interpretation of these data depends upon the constancy of the total venous volume during the period of observation, and assurance that this volume is independent of proximal arterial pressure. These latter relationships are currently being clarified.

Proposed course of project:

It is contemplated that this preparation will allow quantitative evaluation of the influence of such physiologic stimuli as hypercarbia and anoxia, as well as the influence of inhalation and conduction anesthesia on a large segment of the reactive venous bed, and illucidate what effects these changes have on cardiovascular dynamics.

Part B not included.

Calendar Year 1962

PUBLIC HEALTH SERVICE, NATIONAL INSTITUTES OF HEALTH

SUMMARY ANNUAL REPORT OF PROGRAM ACTIVITIES
THE CLINICAL CENTER

DIAGNOSTIC X-RAY DEPARTMENT

CC-35
Serial No.

## Program Goals

The primary objective of the Diagnostic X-ray Department is to provide a complete diagnostic radiological service of the highest quality for the various institutes of the National Institutes of Health. Other objectives include the continuation of the diagnostic radioactive isotope clinic for thyroid scans, thyroid uptakes, and brain scans as well as the expansion of the isotope clinic to include scans of the liver, pancreas,spleen, kidneys, and heart and renal uptakes. This clinic plus a didactic radioactive isotope course by the radiation physicist and a cooperative exchange isotope course with clinical pathology will provide a complete training program in isotopes.

Greater research activity in the field of radiology, improvement of the residency training program, and continuous efforts to improve the efficiency of the service of our department are further objectives.

## Developments and Trends

Progress has been made in the electronic developments in image intensified fluoroscopy equipment. One unit scans 1030 lines, which is almost twice that of earlier equipment, and permits the use of kinescopic cineradiography. A remote control image intensification unit is now available, and partially transistorized units have been recently marketed. These newer types of equipment are being evaluated for possible utilization in our department.

New contrast media are continuously being made available. Angio Conray is one of the most recent of the angio cardiographic preparations. We have elected to continue the use of Renovist for these studies, however, since it produces excellent visualization and minimal complications. This media was also selected this year for intravenous pyelography because it is less viscous than Hypaque, requires less quantity, and has minimal side effects. Hypaque was the continued choice for cerebral arteriography since adequate studies in this area with Renovist have not been done.

The Philips Massiot transverse axial tomographic unit has been installed in the new surgical wing and stimulates a multitude of ideas for visualization of transverse planes of any portion of the body for diagnostic studies. Mr. Joseph Morel, Chief X-ray Technician, has been working on establishing the technique which has required many adjustments and trials. There is some possibility of transferring this unit to our department as it would greatly facilitate diagnostic investigations by our staff. This unit at the Clinical Center is the only one in the United States at the present time.

There has been a progressively greater need to demonstrate fine detail in the bones and soft tissues of the head and neck. The above described radiotome

will lend itself to transverse tomographic sections. However, there is available an excellent vertical tomographic unit called the Polytome which would greatly improve the vertical body sections. The present unit in the department produces wash lines which obscure detail in the areas of interest. These wash lines result from the curvilinear travel of the tube. With the Polytome, the X-ray tube subscribes a circle and wash lines are practically nonexistent.

## Future Objectives

Plans of this department include further reorganization and renovation to utilize all space with maximum efficiency.

Staffing plans are prepared for the radiographic needs of the new surgical wing, which is expected to open in the near future. There will be two technicians who are quite experienced with special procedures. One radiologist will be specifically assigned to this area for special procedures but will not be physically present at all times; and one resident, in training for special studies in this area, will be constantly available.

A radiographic room is to be established on the 9th floor as a satellite of the main Diagnostic X-ray Department; its use will be limited strictly to fluoroscopy for placement of small bowel biopsy tubes by Dr. Leonard Laster, of NIAMD, and his associates. This unit will remain locked at the panel in interval periods, and will be unlocked and checked out by an X-ray technician each day before use. The physicians who will use the equipment will receive instructions on its use and hazards, and accurate records will be maintained on radiation to the patient and operator.

A chest X-ray facility, which will be a satellite of the main X-ray Department, is planned for the Employees' Health Service area. It will be staffed by a registered X-ray technician and a student technician. A radiologist will be available at all times for emergency interpretation of films, as in the main X-ray Department. This will notably decrease traffic in the main department, and will permit the utilization of a part of the waiting room space for the isotope program. Because of the convenience to the employee, it is anticipated that the number of annual chest films will increase, and thus the cause of preventive medicine will be benefited.

Immediate expansion of the diagnostic radioactive isotope service to include organ and mediastinal scans and uptakes is planned, as well as a complete residency training program in isotopes in the near future.

Greater opportunities for research in radiology in our department will be vigorously sought, and opportunities which already exist will be assessed and utilized. Ways and means will be considered to increase the staff, in order to permit the research-oriented radiologist to contribute more to a cooperative research program.

New equipment will be requested, not so much because of maintenance problems, but for better quality results attainable with recently developed equipment.

The assignment of a second full-time surgical nurse to the X-ray Department is planned for the near future to accommodate the increased activity in surgical procedures.

It is the consensus of our staff that the individual and the department benefit more from concentrated diagnostic X-ray courses of a few days to a week in length than from attending national and local meetings. Therefore it is planned to utilize these courses to a greater extent than the meetings. In addition, it is planned to increase the use of local consultants for teaching purposes, and single visits from noted radiologists at quarterly intervals. By sharing our programs which feature nationally recognized radiologists with the local community of radiologists and teaching centers, the academic stature of our department will increase. It is hoped that this program will stimulate reciprocal programs in other local institutions.

Progress Achieved

There was a considerable increase in the total number of X-ray examinations during fiscal year 1962 as compared with 1961. There was nearly a 50% increase in surgical procedures. A slight increase occurred in radioactive isotope studies of the thyroid gland. The only area to demonstrate a slight decrease was in the brain scan activity.

Increased activity and contributions in the cooperative research program were achieved.

Some physical improvements in the department were attained; others are in the planning stages.

Improvements were made in the resident training program, to provide more instruction and supervision.

Two rewarding new weekly conferences were established.

Additional responsibilities were accepted to cover the annual chest X-ray program for the Rocky Mountain Laboratory in Montana.

The organization of two satellite diagnostic X-ray services has been planned, but has not yet been realized.

One new electronic film reproduction unit was obtained which will be of considerable value for the department.

An additional radiologist with training in special procedures was added to the staff, and a position was established for a second who will arrive in February 1963.

Two new residents were selected; one of these is to fill the deficit created by the departure of Dr. Joseph LoPresti, who served a 3-year residency program by special arrangement.

The radiology library in the department was reorganized and expanded

materially to permit ready access to essential information.

The second class in the X-ray Technicians' School was launched; and, in the assessment of the first class, it was felt that the program was quite successful and the trainees were very well trained. This observation is reinforced by the fact that we plan, if possible, to retain the graduates of the first class as regular staff technicians.

## Major Problems

The most acute problem of the year was that of hiring desirable personnel when several resignations occurred in a relatively short period of time. This was particularly urgent because our staff is numerically maintained at minimal levels. This emergency was gradually resolved, and fortunately employees of good quality were secured.

The only other problem of significance was that of getting some adjustment for the deficiencies in the image intensification unit. A satisfactory proposal was obtained.

## Honors, Awards, and Publications

A number of papers were accepted for publication, and others were presented at various meetings.

No specific honors or awards were received within the year.

Calendar Year 1962

PUBLIC HEALTH SERVICE, NATIONAL INSTITUTES OF HEALTH

SUMMARY ANNUAL REPORT OF PROGRAM ACTIVITIES
CLINICAL CENTER

DENTAL DEPARTMENT

CC-36
Serial No.

The responsibility which the Dental Department of the Clinical Center has in supplying examination, diagnosis, consultation and dental treatment to the patients of all the Institutes conducting clinical research in the Clinical Center, National Institutes of Health, has been performed satisfactorily in calendar year 1962. In addition, the Department has rendered a more detailed and expanded service to both the in- and out-patients of the National Institute of Dental Research who, by nature of their dental illness, are in need of such special consideration.

In mid-year the Dental Department was assigned a dual responsibility in which the Chief, Clinical Investigations Branch, NIDR, assumed responsibility for dental research and the Chief, Dental Department, CC, was delegated responsibility for patient care. A liaison officer was assigned to the reception area and guided the flow of patients in an excellent manner.

Special attention was continued for NCI and NHI patients, as was cited in last year's Annual Report. There was an increase in the number of maxillo-facial devices and obturators constructed for patients with cancer. There was an increase in the amount of "service" performed for NIDR. An increasing number of full-mouth reconstruction and splinting cases were completed.

The Dental Department performed all types of dental treatment, as shown by the following statistics:

| | 1960 | 1961 | 1962 |
|---|---|---|---|
| Admissions to Clinical Center | 3,868 | 3,876 | 3,906 |
| Examinations | 1,682 | 1,540 | 1,629 |
| Visits | 10,308 | 10,827 | 14,029 |
| Treatments | 11,086 | 12,150 | 19,697 |

The increases in numbers of visits and treatments may be explained by the fact that a new and more effective method of tabulating such information was begun in June.

## Personnel

A. Professional. There were five dentists assigned the first 6 months of 1962 and six dentists the last 6 months. Facilities and assistance were provided for 26 NIDR dentists.

B. Administrative and Clerical. Four full-time employees and one part-time employee were engaged in this activity in 1962.

C. Semi-professional and Ancillary. One dental assistant was assigned to each dentist. There were three hard-working dental technicians. One nurse, one dental hygienist, and one X-ray technician were on duty the full year. A medical aide was also on full-time duty.

D. Plans for the Future. In the immediate future we plan to reconstruct one modern dental module as a prototype for an efficient working area in which ancillary personnel can be used more effectively.

## Objectives

The objective of the Dental Department, as originally conceived, was to furnish the highest quality dental diagnostic and treatment service to the patients of the Clinical Center. In addition, it was to provide intelligent consultation on dental problems as they relate not only to the diseases being studied, but, also importantly, to provide an evaluation as to what part dentistry plays in the conduct of the individual research projects.

The Department has continued to perform these major functions and has provided, in addition, a most stimulating morale building and maintenance service not only to ill patients but to the normal volunteer patients also.

A large number of visitors from all over the world visited the Dental Department and were escorted on tours by members of the staff.

The following article by CC Dental Department dental officer was published:

Swerdlow, H., and Stanley, H. R. Response of the Human Dental Pulp to Amalgam Restorations. Oral Surg., Oral Med., and Oral Path. 15:499-508. April 1962.

Presentations of lectures, papers, and table clinics included:

Swerdlow, H. "Vertical Dimension Changes in Natural to Immediate Dentures." Postgraduate Clinic, District of Columbia Dental Society, Washington, D. C. March 1962.

Swerdlow, H. "Restorative Procedures Using Parallel Pin Retention."
(1) Washington Dental Study Club, Washington, D. C. January 1962.
(2) 69th Annual Meeting of Association of Military Surgeons of the U. S., Mayflower Hotel, Washington, D. C. November 1962.
(3) Georgetown Dental School, Postgraduate Dept., Washington, D. C. November 1962.

Lightbody, Philip M. Table Clinic. "Functionally Generated Path Technic As Used in Construction of Gold Restorations." American Dental Association Meeting, Miami Beach, Fla. November 1962.

Calendar Year 1962

PUBLIC HEALTH SERVICE, NATIONAL INSTITUTES OF HEALTH

SUMMARY ANNUAL REPORT OF PROGRAM ACTIVITIES
CLINICAL CENTER

CLINICAL PATHOLOGY DEPARTMENT

CC-37
Serial No.

SUMMARY OF ACCOMPLISHMENTS

We have increased laboratory support of patient care and clinical research by 25% during 1962 and in addition assumed responsibility for the Clinical Center Blood Bank. Progressive automation in clinical chemistry has moderately improved our capabilities, but the data processing system developed by our staff with consultative help from industry contributed still more to the efficiency of our operation. Although evaluation of ultra-micro methods in chemistry was completed, these methods could not be put into patient care service due to lack of space. For the same reason the further development of quality control was not possible. The improvement of the professional supervision of Clinical Chemistry, Microbiology and the Blood Bank by Dr. Peacock, Dr. Cotlove, Dr. Young and Dr. Schmidt has led to a remarkable demand for their collaboration in problems of clinical investigation. Thus collaborative research is becoming a significant part of our contribution to the clinical research at the Clinical Center. In spite of increasing demands on their time for supervision of service operations in our laboratories, our professional staff has managed by long hours and efficient management to continue independent research in important problems of clinical chemistry, heamtology, immunohematology and microbiology. Significant contributions especially to methodology and consultation in our service functions have been made by our visiting scientists, Dr. Bogen and Dr. Ericsson (Microbiology), Dr. Tanaka (Hematology), and Dr. Radde (Chemistry).

Our professional training program has been improved and, in addition to the regular weekly classes for technologists and the formal program for resident physicians, also includes advanced fellowship and tutorial training for senior clinical pathologists. The staff has been encouraged to take advanced training in the graduate programs at the National Institutes of Health and at local universities.

PATIENT CARE CONTRIBUTIONS

1. Test Volume

The patient care service which is the primary objective of this Department has greatly increased in volume this year. The calendar year figures are:

| Year | Total Tests Exclusive of Blood Bank | Increase Over Previous Year |
|---|---|---|
| 1962 | 555,000 | 25% |
| 1961 | 445,000 | 13% |
| 1960 | 399,000 | 15% |
| 1959 | 346,000 | 19% |

In addition, the Blood Bank performed 95,000 tests and issued 10,800 units for transfusion, including 3,200 platelet transfusions.

The heavier test load was partially compensated by a 23% increase in the technical staff to 54.2 and an 8% increase in the workload per technologist to 44.2 tests per day. The daily work volume in the last half of the year was 13% greater than for the first 6 months. Because of the lead time required for recruting technical personnel, the production per technologist rose to 51.6 tests per day during September. We are increasingly frustrated by the dangers of crowding workers into the space which was minimally adequate 4 years ago for one-half our present output.

One rapidly changing measure predicts future increasing demand for our laboratory service. The number of tests per patient which was rising at a rate of 14% per year is now 23% over that of last year. This reflects the increasing extent to which physicians rely on scientific laboratory information for modern and progressive patient care.

The service contributions of each of our laboratories cannot be compared because of the markedly different types of procedures and skills involved in each area. However, the load in Clinical Chemistry was 254,000 tests, 15% over that for last year; in Microbiology 87,000 tests, up 18%; and in Hematology 213,000 tests, a 37% increase. The figure for Hematology reflects mostly the support of the NIAID and NCI programs of myelosuppressive therapy for autoimmune diseases and leukemia, and the platelet and white cell transfusion program in leukemia. The latter program was also the major part of the 65% increase in the transfusion load of the Blood Bank during FY 1962.

2. Consultations

The quality and depth of our contributions to patient care cannot be tabulated as simple numbers of tests but requires a recognition of the professional consultations given along with the test results. In this sense our senior staff makes a singular continuing contribution. Examples of these are: Hematology - the diagnostic acumen contributed by Dr. Brecher and his staff in the differential diagnosis of types of leukemia has aided materially in the effective trial of new drugs specific for cell type; Clinical Chemistry - the practical knowledge of Dr. Cotlove in acid-base problems has assisted greatly in the support of the massive surgical procedures performed in the NCI and the NHI; Microbiology - the knowledge of bacterial ecology enabled Dr. Young to work effectively on the study of contamination of the heart-lung machine; and in the Blood Bank the skills in

immunohematology of Dr. Schmidt and Dr. Bronson contributed to the programs of study of the autoimmune diseases in several Institutes.

3. Collaborative Contributions

Many contributions to the design as well as the execution of clinical studies in the Institutes were made by our senior staff.

In Hematology, Dr. Brecher has worked on the study of intracellular inclusions and the effects of drug therapy on specific cell types with the National Cancer Institute and has continued to guide the hematologic research of the Laboratory of Experimental Pathology, NIAMD.

In Clinical Chemistry, Dr. Cotlove studied hyperuricemia in acute leukemia and magnesium in blood and cerebrospinal fluid with the staff of NCI.

The Microbiology Service under Dr. Young worked closely with NIAID in the studies on leprosy, with NCI on locating the protein fractions containing antibodies to bacteria and in new drug studies, and with NHI on the new adhesives for use in tissue repair.

The Blood Bank under Dr. Schmidt and Dr. Bronson has worked with NIAMD on antibodies to platelets and leukocytes and NCI in defining the needs for practical platelet replacement therapy.

IMPROVEMENTS IN SERVICE

Although space limitations have prevented the introduction of many new tests desired by the patient care staff, we have made important improvements in methods already in use and reorganized testing operations.

Last year Dr. Peacock organized the technologists in Clinical Chemistry into teams to perform related tests. This idea has been improved and extended to include other functions such as specimen accessioning and report preparation. The concept also was applied to the organization of work in Microbiology. The determination of lactic dehydrogenase and $pCO_2$ were added to tests available and a rapid cholesterol method developed in our laboratories was introduced. Other improvements are detailed under Developmental Research.

In Hematology, starch gel electrophoresis, the measurement of urinary formiminoglutamic acid (FIGLU) and analysis of red cell glucose-6-phosphate dehydrogenase were introduced. The FIGLU determination is important in the differential diagnosis of certain anemias and folic acid deficiency. Patients with a peculiar susceptibility to red cell damage from a number of widely used drugs can be recognized by a deficiency of glucose-6-phosphate dehydrogenase.

The problem of maintaining platelet and leukocyte levels in leukemic patients has required almost daily cell counts, usually in the evening, to evaluate survival of transfused platelets and leukocytes. This urgent demand for patient care continues to pose difficulties in employment of

competent technical staff for night duty. The problem is further magnified by the increasing week-end requests for technologists to go to the Nursing Units to obtain capillary specimens in order to avoid venipunctures in patients whose veins must be preserved for intravenous medications.

Many changes in methodology have been introduced by Dr. Young in Microbiology. These include chemical-cultural differentiation of enteric microorganisms, serological identification of enteric pathogens, a gel diffusion technique for demonstration of toxins from Corynebacterium diptheriae, Streptococcus MG agglutination in atypical pneumonia and serological grouping of Beta hemolytic streptococci.

Although in most hospitals bacterial counts of less than 100,000 in urine are ignored, our experience with careful specimen collection indicates significance of a bacterial count of 10,000 or more. Even under 10,000 predominant cultures of Pseudomonas, Staphylococcus aureus, and Candida in leukemic patients are identified. Changes in culture bottles for M. tuberculosis, lengthening of the incubation period, and new and enriched media have improved some of our cultures. Dr. Ericsson of the Karolinska Institute, Stockholm, established his semiquantitative antibiotic disc assay method while he visited us from September to December. We are comparing it with our disc method.

Our responsibilities and contribution in bacteriological surveillance have increased considerably during the year. Immediate reports of infections and evidence of epidemic spread are made to patient care physicians to enable them to institute prompt corrective action. Weekly reports are made to the Hospital Infections Committee. Periodic bacteriological surveys of patient contact personnel are continuing. Preoperative skin and nasopharyngeal cultures are made on admission of surgery patients and repeated cultures during the postoperative period are examined for changes in flora, especially for the introduction of pathogens. Continuous bacteriological surveillance is conducted on leukemia patients.

Dr. Schmidt and his staff in the Blood Bank continued to increase the support for extra-corporeal circulation and platelet replacement therapy both by direct research and outside contracts. The remarkable beneficial effects of platelet and leukocyte transfusion in leukemia patients have increased greatly the demand for these living cellular materials and made possible much more vigorous drug therapy. The support of therapeutic plasmapheresis for the removal of abnormal plasma proteins and white cells from NCI patients is a significant new service load.

A laboratory staff is on duty during the critical evening hours in Hematology, Chemistry and the Blood Bank. Sufficient work exists to justify 2 or 3 technologists for evening duty in Chemistry and emergency coverage for the entire night.

DEVELOPMENTAL RESEARCH

Most important has been our progress in data processing. In mid-year we

installed IBM tabulating equipment and a carefully designed punch card system developed by Dr. Peacock (NCI) and our staff. The cooperation of the medical staff was essential for the success of such a revolutionary innovation in reporting of clinical data. The advantages of the system were so evident that this cooperation was immediately obtained. With this equipment, and in spite of the remarkable recent increase in our daily workload in Clinical Chemistry, we have been able to send out all clinical chemistry reports by 4:00 or 5:00 p.m. as compared to previous delivery times of 5:30 or 6:30 p.m. for significantly smaller volumes of work. The IBM printed reports number from 200 to 350 per day, with 500 or more on Monday, our heaviest workday. This data system has proved itself in principle but already is too slow and limited in function to fill the demands of our growing operations.

Several awkward and inefficient operations in the daily work of chemical analyses were discovered in the course of developing the IBM data system. The superb work of Miss Bunting, Chief Technologist of the Clinical Chemistry Service, with the advice and guidance of Dr. Peacock, in reorganizing the specimen accessioning system and analytical processing resulted in remarkable improvements in operating efficiency. Several technologists now start work at 7:30 a.m. to prepare instruments and standards so that analytical procedures can begin without delay when clinical specimens are received at 8:30. Superior performance award recommendations are being prepared for the technical staff to recognize their invaluable contributions to this work.

The Direct Digital Readout Colorimeter, developed on contract (CC and NCI) by Bolt, Beranek and Newman, and delivered in October of 1961, has been thoroughly evaluated and used in routine operation for one year. It has proved to be a fast and accurate instrument and it is used for 5 of our major test procedures. The current developmental contract (NCI) with Airborne Instrument Laboratories includes a modification of this colorimeter to adapt it to paper tape or card punch input to computer.

Automation also included installation of a flame photometric electrolyte autoanalyzer which determines sodium, potassium and $CO_2$ levels from a single 0.1 ml serum sample at the rate of 40 samples per hour.

A contract (NCI) was negotiated with Airborne Instrument Laboratories for the design and construction of a glucose-urea nitrogen analytical modular unit including automatic specimen accessioning, numbering, loading, delivery to autoanalyzer, positive identification of sample result and output adaptable to computer operation. This contract further provides for design of an output conversion system to adapt all our analytical instruments in chemistry to the computer, to improve our current IBM operation and to develop a program for the Honeywell 800 computer (Computation and Data Processing Branch, NIH) for the storage and retrieval of our data on punch cards.

For ultra-micro chemistry two approaches are being developed. The Sanz-Spinco equipment and methods were evaluated and found unsatisfactory. New methods were developed and now we have 10 methods which can be put into routine service as soon as space becomes available.

A Vacuum x-ray Spectrograph was installed and is being evaluated for use with samples as small as 10 to 20 microliters. This method has excellent potential for the rapid automated multiple analysis of minute samples. It requires little or no chemical preparation of the material and does not destroy the specimen.

In Hematology, developmental studies have continued on the measurement of red cell size and size distribution with the model B Coulter Counter and an automatic programing attachment. The discrimination of two cell populations in patients with certain anemias and progressive shifts in size distribution with therapy has made possible assessment of therapy without relying solely on reticulocyte response.

Further work in electronic platelet counting promises a routine method for counts above 20,000. This would reduce the tedious manual counting operations and allow machine counting of 70% of routine samples.

In Microbiology, few procedures lend themselves to effective automation. However, for antibiotic sensitivity, biochemical cultural reactions (fermentations, etc.,) phage typing and certain agglutination reactions, automatic instrumentation may be feasible. Mr. Hochstein, Chief Technologist, was sent to Technicon Company for their course of study in operation and maintenance of the autoanalyzer and an instrument is being installed in Microbiology for exploration of this application.

In the Blood Bank several important modifications in the disposable plastic transfusion equipment developed by us for use in plasmapheresis have been made.

It has been shown that the immunologic properties of platelets are not a significant barrier to effective platelet transfusion in leukemia. This is a significant finding which permits other institutions to undertake a platelet transfusion program without the necessity for establishing procedures for the determination of platelet groups.

In immunohematology, as in bacteriology, automation has not come into its own. However, the integration of the Clinical Center Blood Bank into this Department has already resulted in the first successful use of electronic equipment to quantitate agglutination techniques. With the current emphasis in many areas of medicine on immunology and genetics there has been a great demand on the Blood Bank for antigen and antibody quantitation and automation in this area is a real possibility.

PERSONNEL

1. Professional Staff

Dr. Ernest Cotlove returned in February from special training at the Postgraduate Medical School, London, and assumed his duties as Chief of Clinical Chemistry Service, enabling Dr. Andrew Peacock who was Acting Chief in his absence to devote full time to his duties as Head of the Chemistry Section

of the Diagnostic Research Branch, NCI.

Dr. Paul Schmidt was appointed Assistant Chief of the Department and Chief of the Clinical Center Blood Bank on July 1.

Dr. Viola Mae Young was made Chief of the Microbiology Service on July 1, after serving as Acting Chief for one year.

Dr. H. H. Marsh resigned as Assistant to the Chief of the Department effective June 30, to take the position of Director of Clinical Pathology at the Union Memorial Hospital, Baltimore.

Dr. William B. Mason, Associate Professor of Biochemistry and Medicine, University of Rochster, completed a year as Senior Fellow in Clinical Pathology on June 30. During his stay he made excellent comparative studies in laboratory automation procedures.

Dr. Arthur Ness, Analytical Chemist, transferred in October to the Diagnostic Research Branch, NCI.

Drs. Geoffrey Brittin, Thomas Liddy and Paul Schmidt completed their clinical pathology residencies on June 30. Dr. Brittin went to the University of Minnesota and Dr. Liddy to the National Cancer Institute for training in pathologic anatomy. Drs. Jack Lasersohn and Donald Kundel continued in residency training. Drs. William Bronson, John Korzis, Peter Olch and Richard Wertz were appointed Residents on July 1.

Dr. Edward Filmanowicz joined the Department on July 1 to work with Dr. Brecher on the culture of hematopoietic tissues.

2. Visiting Scientists

Dr. Yasukayu Tanaka continued his work with Dr. Brecher on Electron Microscopy under the support of the Diagnostic Research Branch, NCI.

Dr. Emil Bogen, Emeritus Professor of Bacteriology, University of California, and formerly Director of Laboratories and Research at Olive View Sanitorium, Los Angeles, was with us from May to September. Dr. Bogen brought a great depth of experience and world-wide knowledge, not only of bacteriology, but also of general pathology, medicine and the philosophy of mankind. His insatiable curiosity concerning all life was a source of continuous stimulation to the Senior Staff, residents and technologists alike. Our plans and anticipation for his return next year were cancelled by his untimely death a few days after leaving Bethesda.

Dr. Hans Ericsson, Associate Professor of Clinical Bacteriology and Director of the Bacteriology Department, Karolinska Institute, Stockholm, collaborated with Dr. Young and her staff from September through December 15th. He pursued his studies on bacterial sensitivity to antibiotics concerning which he is one of the world's experts. We will continue collaboration with him on antibiotic standardization for the World Health Organization.

Dr. Ingeborg Radde, chemical pathologist and endocrinologist with a doctorate in physiology, who trained in Great Britain and Canada, joined the Clinical Chemistry Service in October to participate in developmental research and correlation of automation to clinical care services. She is also consulting in endocrine and renal problems.

Mrs. Pirjo Suutarinen, M.S. in Analytical Chemistry and Visiting Fellow from the University of Helsinki, has been working with Dr. Williams since August in the development of X-ray spectrographic analysis.

3. Civil Service Grade Structure

A more realistic grade structure was established for the medical technologists in our Department. Inexperienced personnel in this category are employed at the GS-5 level for on-the-job training and may be advanced to GS-7 after one year. Our top supervisory technologist level has been raised to GS-11. This permits the utilization of the GS-9 grade for group leaders. It also is planned to assign the GS-9 and GS-11 levels for non-supervisory staff who are performing complex procedures at a high level of responsibility, competence and understanding.

Action has been initiated to reorganize the grade structure in the Blood Bank to establish equivalent levels for technical staff with responsibilities and competence equivalent to those in the other Services. It is essential for the technical staff of the Blood Bank to have professional judgment and knowledge in additon to technical skill in order to make the interpretive decisions concerning transfusion compatibility which must be made in the laboratory and which cannot be the responsibility of the patient care physician.

A further problem in the Blood Bank is the lack of recognition of this field as an area of specialization for nurses. Nursing personnel who are in charge of all donor and patient contacts and who were responsible for the success of the plasmapheresis program have not been recognized by equitable promotion opportunity. The Chief Supervisory Nurse has been a GS-7 for seven years and cannot be properly rewarded for her progressive excellence and increasing responsibilities by a well-deserved promotion.

The experience of the senior staff of the Department is being utilized by the Board of U. S. Civil Service Examiners in the qualification and rating of personnel in several critical areas. Panel members for Medical Technology include Drs. Williams, Cotlove, Schmidt and Young; for Bacteriology, Drs. Williams and Young; and for Blood Bank Nursing will include Drs. Williams and Schmidt.

4. Staffing

The limiting factor in staffing is the lack of space in which to house workers. The output asked of each technologist rose to dangerous levels during the summer months. There was a frustration and a growing sense of hopelessness among the technologists and recruitment was suspended. Imme-

diately following the staff increases in the Personnel Office of the Clinical Center recruitment activity began again and we were able to fill some vacancies that must be filled. There is urgent need for personnel who can work evening and night shifts during which time space and equipment are idle. We are convinced that there are many competent technical personnel associated with the large scientific community of this metropolitan area who would be interested in working part-time and evening shifts if they could be contacted. Prohibition of advertising severely restricts our efforts to reach these people.

At the beginning of the year there were 58 technical staff personnel. Exclusive of the Blood Bank 24 were recruited and 15 left, a net gain of 9, a 14% increase to handle a 25% increase in work. The rate of attrition was 26% which is close to that of last year. Two employees left to improve their financial status. This is an improvement over last year and undoubtedly reflects a good effect of the improvement in grade structure for technical staff.

Two new positions were established and filled to staff the data processing program. Three chief technologists were promoted to GS-11 and four group leaders to GS-9. Mr. Ziert, bacteriologist, was promoted to GS-12. Two Service Chiefs were promoted: Dr. Cotlove to Medical Director and Dr. Young to GS-14.

The unique developmental progress made by the Department created a demand for special technical personnel. Beginning with Mrs. Brewer who has played such an important role in making automatic data processing a reality there will be a continuing need for specially trained personnel to work with data computation. Complex automated machinery requires constant preventive maintenance and the skills in design and assembly possessed by Mr. Eve have not been fully available because of the time he must spend in routine repair work. An assistant should be obtained for him.

Several acute shortages of clerical personnel have arisen and there is a definite need for a clerk-typist pool to supply temporary support for this Department during the unanticipated shortages.

5. Training

The residency training program has been severely threatened by the lack of space. Bench and desk space is not available for residents. Work and study areas cannot be provided them as they are for Clinical Associates or for residents in Pathologic Anatomy. Although six junior residents should have been accepted for training, physical crowding dictated that only four be appointed.

Despite crowding, we have persisted in retaining one module for a classroom for an active teaching program for the resident staff. This consists of laboratory rounds conducted by the residents twice each week, regular bi-weekly journal clubs alternating with staff and guest lectures on special topics and semiweekly teaching sessions designed to give formal coverage of the entire field of clinical pathology over a 2 year period. In addition

this room is in constant use for informal problem-solving sessions spontaneously arranged by staff members from the different services to utilize the multidisciplinary approach. It is not adequate for the biweekly Departmental Staff meeting or even for the weekly meetings of each service.

Several extramural requests for the unique training that we can offer to medical and technical personnel in the multidisciplinary approach to clinical pathology have had to be denied. In only one area have space and staff limitations permitted us to cooperate. This is in the Tutorial Program of Continuing Education of the American Society of Clinical Pathologists. A 3 day technical refresher program for Directors of Laboratories was conducted in hematology. We have been asked to expand this program into chemistry, microbiology and blood banking.

Every attempt is made to encourage the staff to become better trained in their subspecialties. Tuition fees and cost of texts were provided for the following staff members for advanced education.

| Name | Grade | Course | School |
|---|---|---|---|
| Charles Zierdt | GS-12 | Adv.Biochem.Bact.Physiol. Immunology, Pathology | Geo.Wash.U. |
| Hiroshi Nishi | GS-11 | Electronics | NIH |
| Sylvia Bunting | GS-11 | Instrumentation | NIH |
| Herbert D. Hochstein | GS-11 | General Parasitology | Catholic U. |
| Louis Bourgeois | GS- 9 | General Parasitology | Catholic U. |
| " " | | Adv. Bacteriology | NIH |
| Henry Gillem | GS- 7 | Instrumentation | NIH |
| Clinton Thompson | GS- 7 | Instrumentation | NIH |
| James Willett | GS- 7 | Introd. Biochemistry | NIH |
| " " | | Adv. Bacteriology | NIH |
| Ewdokia Ryschenkow | GS- 7 | General Mycology | NIH |
| Willadene Rude | GS- 7 | Introd. Immunology | NIH |
| Mary McGinnis | GS- 7 | General Mycology | NIH |
| Cynthia O'Connor | GS- 6 | Introd. Immunology | NIH |
| Arlene Yeterian | GS- 5 | Adv. Bacteriology | NIH |
| Dr. William Bronson | CO | Instrumentation | NIH |
| Dr. Harvey Cooper | CO | Correlation between Int. Med. & Basic Science | NIH |
| Dr. Harvey Alter | CO | Correlation between Int. Med. & Basic Science | NIH |
| Dr. Richard Wertz | CO | Instrumentation | NIH |

SPECIAL PROBLEMS

The workload has continued to grow at an accelerated pace. Two factors caused this: a) the anticipated and predicted increase in patient care laboratory needs arising from more detailed evaluation of patient response and course of diseases and the protocol support for clinical investigation; and b) the unpredicted rise in patient census. In keeping with our philosophy of providing all laboratory information desired for the research

patient we utilized every possible management method to keep up with the demand. For this we maintained a high level of overtime work and relied on the motivation and loyalty of our entire staff. Nevertheless, it was necessary to relieve the load when it became too frustrating and demoralizing during the past 6 months by contracting several procedures such as protein bound iodine and steroid analyses to an outside laboratory. In addition, personal contracts with individual physicians were made to explain our reluctant refusal to comply with requests which were obviously not immediate patient care needs.

The "Test-Procedure" unit is no longer an adequate measure for the reporting work accomplishments. Many time-consuming examinations require considerable professional participation, supervision and consultative interpretation while other tests can be performed in groups and batches by automation and require less personnel time per test. We have examined the methods devised in other laboratories and by the Army, Air Force, Veterans Administration, Kaiser Foundation and the College of Pathologists for reporting this but none is satisfactory. We are studying time-material factors, professional supervision involved, and automation effects and will develop a work unit to better fit our reporting needs. Necessary daily calculations to tally the work units for all tests were impractical until a data system was established. It can now be integrated into the IBM system.

Our continuing limited capacity is largely a matter of extreme crowding. Relief of space shortage is urgent. The present space was calculated to provide for 30,000 test-procedures per month. The present volume is almost twice that number. None of our Director grade Service Chiefs has an office to himself but must share it with assistants, residents, technologists or secretaries. Adequate progress in automation, efficient data processing, development of improved tests, initiation of ultra-micro methods, maintenance of satisfactory quality control, relief of marked and hazardous crowding, provision of adequate work areas for our visiting scientists, fellows and residents have been thwarted by a lack of space. Thus our progress in clinical pathology is lagging behind that of other centers. This situation may soon destroy our well-earned reputation of leadership in this field.

Quality control has been necessarily neglected in chemistry and has not been developed to a safe level there or in Hematology, Microbiology or the Blood Bank. Further progress in this area is one of our first objectives when space and staff are sufficient. Difficulty in transmitting accurate reports of emergency tests to the waiting physician has increased and several times erroneous transposition has endangered a patient. Several systems were examined and early next year a facsimile reproducing unit will be installed in the NHI and NCI intensive surgical care rooms. The written emergency report in the laboratory will be directly and immediately reproduced on the slave unit in the intensive care ward. If this trial is successful others probably will be needed in some of the medical nursing units.

Very few volunteer donors contribute blood to our Blood Bank. Employee donations are restricted by our agreement wit the American National Red Cross and there has been no concerted effort to educate relatives of

Clinical Center patients concerning this responsibility. The cost of blood for our center is extremely high. A recruitment program preferably conducted by the Social Service Department with the collaboration of the patient care physicians is needed to fill this gap and when new donor space in wing 10-A becomes available our agreement with the Red Cross must be renegotiated.

FUTURE PLANS

There is no reason to hope that our laboratory workload will stabilize at the present level. The accelerating advances in scientific technology and medical research, if they are to be made available to the sick, must be applied to daily routine. New tests add new information but older test information is still valuable and cannot be ignored. If maximum patient occupancy has been reached, the increase in laboratory workload next year should return to about 12%. Studies of normal ranges, chemical individuality and the Employee Health Conservation program will produce a significant additional test volume. Furthermore if NIH is to maintain its hard-earned reputation of leadership in progressive Clinical Pathology we will need to correct the necessity for contracting out laboratory tests and not only provide all examination procedures available to patients in leading teaching hospitals but lead in adaptation of new procedures from medical research to routine application. This means a doubling of work in 5 years or less. Therefore intensive development of automation and data processing is the more urgent to provide the necessary capacity to comfortably handle the increasing volume.

By March our contract (NCI) with Airborne Instrument Laboratories for automation of chemical analyses will provide a unit rack and automated glucose-urea nitrogen analyzer with an output compatible for card punch or computer. The contract will be renewed for design of a multiple analytical system with the computer output. By summer the data processing plans will be complete for converting to a small computer with back-up program in the Honeywell 800. Within a few weeks we should have a program completed for chemistry data (card) storage and retrieval by the Honeywell 800 and for preparation of weekly summary reports of patients (chemistry only) and monthly statistical reports. During the year our staff will study and design application of the IBM computer system to hematology, blood banking and microbiology.

As space becomes available several new instruments will be evaluated for automation of methods not adaptable to the autoanalyzer, such as the robot chemist for rapid blood cholesterol analysis.

The demand for electrophoretic analysis of serum proteins has exceeded all estimates. The new automatic recording gradient sugar electrophoresis apparatus should be procured, evaluated and put into routine use.

Development of ultra-micro analytical techniques with x-ray spectrography will be continued with design of automatic sample feeding mechanism and computer compatible output.

Application of electronic counting methods for bacteriological suspensions

(cultures and urine) and the autoanalyzer for rapid measurement of cultural and sensitivity characteristics will be studied.

In the Blood Bank collaborative studies (NCI and NIAMD) on platelet and white cell separation, preservation and transfusion will continue and the use of the autoanalyzer for agglutination tests will be begun.

Improved methods of quality control will be extended in all laboratories as space and personnel become available.

Budgetary changes will include the initiation of the modified fee-for-service plan for financing the Blood Bank. This budget will be kept separate from that for the rest of the Department.

Organizational changes will include an increase in all of the night services. Research and developmental projects will be integrated with the planned Laboratory of Experimental Clinical Pathology in the National Cancer Institute. The organization tentatively approved by the Director of Intramural Research, NCI, provides counterpart sections of experimental Clinical Chemistry, Hematology and Immunohematology, Microbiology and Cytochemistry. Our laboratory service chiefs will be acting chiefs of these sections. This arrangement will provide support in terms of space, personnel and budget for developmental research and the independent research of the professional staff of clinical pathology. It also will closely integrate our efforts in research clinical pathology with the diagnostic research projects in biochemistry, immunology and histochemistry and the new laboratory. This laboratory also will provide collaborative scientific and financial support for our developmental contracts.

Needed personnel additions in the Clinical Pathology Department include an experienced clinical pathologist with administrative ability for deputy chief of the Department; another biochemist (doctorate), a medical bacteriologist and an immunohematologist (doctorate) to increase our depth of competence in these fields; a replacement analytical chemist for Dr. Ness who transferred to National Cancer Institute; and an administrative assistant. Additional technical staff are needed to support bacteriological surveillance of surgical and leukemic patients, night work and special procedures and plasmapheresis in the blood bank.

Service demands have increased markedly at night and on weekends. The high proportion of seriously ill patients in cancer and cardiac surgery require round-the-clock chemical, hematological, bacteriologic and blood bank services. Our data processing equipment needs to operate at night to prepare for early morning work and to handle logistic and statistical records. We must plan eventual 24-hour, 7-day operation.

The professional consultative duties of our service chiefs are increasing rapidly. The experience and expert knowledge of Dr. Brecher in anemias, bleeding abnormalities, leukemia and marrow response to radiation; of Dr. Cotlove in renal physiology and electrolyte balance; of Dr. Young in enteric infections and bacterial sensitivity to antibiotics and of Dr.

Schmidt in the myriad factors related to transfusion are much in demand by the patient care physicians. Consultation is the most important of their contributions. Almost equally significant is their competence in laboratory technology in the respective fields for which their advice and assistance is frequently sought by scientists who are setting up protocols for clinical and laboratory investigations. Our Department often functions as standards laboratory for checking on the accuracy and reliability of methods. Of this we are justly proud, but it adds the obligation for us to maintain a high level of critical evaluation of our own performance and quality control.

Some relief in space crowding will occur in February when the Blood Bank moves into its new location on the first floor of the new Surgical Wing. The original plans for this space provided for commitments to extramural activities no longer a part of the Blood Bank program since it was transferred to the Clinical Pathology Department. However the even more space-consuming commitment to the platelet and white cell replacement program also was not planned when the Wing was designed. By integrating the activities of both Hematology and the Blood Bank which directly support this program we hope to utilize some of this new space for service Hematology. This is justified only on a temporary basis because of our desperate space shortage.

The need for this would be relieved by acquisition of the 6 to 10 modules on the first floor in the vicinity of the Out-Patient Laboratory which would permit all of Hematology Service to be consolidated. Such consolidation will improve significantly the efficiency of Hematology and release 6 modules on the 4th floor for Chemistry and Microbiology. However even this space relief will not provide a proper conference room and laboratories for resident training. These must await future space additions or relocation of the Department.

For the long range, plans should be initiated immediately for relocation of the Clinical Pathology Department in space efficiently designed for the best service to the patients, and for adequate developmental research, data processing and improved training facilities.

Plans are progressing for better resident, fellow and tutorial training programs. The regular residency in Clinical Pathology should be 3 years on the base of 1 or 2 years in pathologic anatomy, or 4 years in clinical pathology alone. The application of chemistry, physics and biology in laboratory medicine has grown so rapidly and is now so complex that the present 2 year training is grossly inadequate to provide sufficient experience in one of the subspecialties of clinical pathology. At the National Institutes of Health we should graduate leaders from our residency programs. Therefore we are encouraging our best residents to stay a third year to attain excellence and complete some research in one area, Clinical Chemistry, Hematology, Blood Bank or Microbiology.

There is a unique opportunity here to offer special fellowship training in advanced clinical chemistry, special hematology, advanced immunohematology and special clinical microbiology, laboratory automation and data processing and laboratory management. No such opportunity exists elsewhere in the

United States. Similar advanced training could be extended profitably to selected technologists. At the Armed Forces Institute of Pathology the annual Pathology Lecture Series (one week) has attained world recognition. Participation is widely sought by medical school professors and directors of large laboratories. No such series is available in Clinical Pathology. The National Institutes of Health is the logical sponsor for such a program. It should be started as a refresher training activity for senior pathologists of the Public Health and Indian Hospitals and extended to include others as program and space permit.

SUMMARY STATEMENT

The 10 year history of this Department has paralleled that of the clinical program at the NIH. Intramural commitments have been met to supply the finest laboratory services to the most advanced research concept ever known in clinical medicine. In addition, the precise and accurate laboratory measurements which have made possible many new clinical programs have had an enormous extramural significance all their own. Among these advances have been the introduction of what are now the standard methods in hematology for the enumeration of red cells, platelets and white cells; the design and evaluation of not only several standard automation techniques in clinical chemistry but also the first use of automatic data processing in this area; the first practical method for routine bacteriophage typing; and the development and standardization of techniques for the utilization of heparinized blood for extra-corporeal circulation and the first successful platelet transfusion program.

These truly significant advances have been made possible by the devoted hard work and inspiration of the staff of this Department with the ever-present support of the Clinical Center administration. This proud record shows every sign of being surpassed in the next 10 years.

| 1962 | Jan | Feb | Mar | Apr | May | June | July | Aug | Sept | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Average census | 393 | 407 | 391 | 399 | 386 | 397 | 406 | 408 | 395 | 406 | 432 | 395 |
| Total tests | 47039 | 39245 | 44653 | 43067 | 43784 | 41175 | 47761 | 51177 | 46837 | 52995 | 51235 | 41589 |
| Test/unit mo. | 42760 | 41300 | 40600 | 41020 | 39800 | 39200 | 45480 | 44500 | 49300 | 46080 | 51235 | 43800 |
| Test/pt/day | 5.4 | 5.1 | 5.2 | 5.1 | 5.1 | 4.9 | 5.1 | 5.1 | 6.0 | 5.7 | 6.0 | 5.5 |
| Test/pt | 120 | 96 | 114 | 107 | 113 | 103 | 118 | 125 | 117 | 130 | 119 | 105 |
| Total equiv. tech. | 47.9 | 46.1 | 49.4 | 49.3 | 51.0 | 49.5 | 48.3 | 46.7 | 47.7 | 53.5 | 53.5 | 57.6 |
| Test/tech/day | 44.7 | 44.8 | 41.1 | 41.6 | 39.0 | 39.0 | 47.0 | 47.0 | 51.6 | 43.0 | 47.9 | 38.0 |
| Blood Bank tests | - | - | 6875 | 6898 | 7641 | 7962 | 9754 | 7743 | 9351 | 8750 | 7506 | |

| | Yearly Total | Mean | |
|---|---|---|---|
| | | First 6 Months | Second 6 Months |
| Average census | - | 396 | 407 |
| Total tests | 550,557 | 43,160 | 48,599 |
| Tests/unit mo. | - | 42,701 | 46,732 |
| Test/pt/day | - | 5.1 | 5.6 |
| Test/pt | 1,367 | 109 | 119 |
| Total Equiv.Tech. | - | 48.9 | 51.2 |
| Test/tech/day | 10,500 | 41.7 | 45.8 |
| Blood Bank tests | 92,650 | 6,931 | 8,511 |

CLINICAL CENTER BLOOD BANK

HISTORICAL SUMMARY

The Blood Bank was transferred to this Department on April 1, 1962. All personnel and equipment concerned with patient services were retained.

To present a picture of the rather erratic growth of the Blood Bank, a work output summary has been tabulated back to the opening date of the Clinical Center.

| | Phase 1 | | | | Phase 2 | | | Phase 3 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Fiscal Year | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63** |
| TRANSFUSIONS* | | | | | | | | | | |
| Whole Blood | 479 | 1,185 | 1,593 | 2,269 | 3,369 | 3,792 | 4,432 | 3,769 | 5,251 | 6,033 |
| Red Cells | 26 | 254 | 589 | 414 | 704 | 958 | 864 | 910 | 1,395 | 1,881 |
| Plasma | Small numbers not recorded | | | | 61 | 96 | 232 | 183 | 179 | 483 |
| Platelets and White cells | | | | | 23 | 106 | 87 | 1,769 | 4,147 | 6,204 |

* Each transfusion unit represents the blood or blood components from a 500 ml. phlebotomy

** Projection based on July through October 1962

This 10 year history reflects three separate growth phases. Only the first of these phases was included in the original operational planning.

PHASE 1

Fiscal year 1954 through 1957 - During this period the workload increase paralleled the census toward an expected load of 4,000 to 5,000 transfusions per year at a 400-patient census. The assigned 1,700 square feet of space and the staff of 18 were adequate. The operation was that of an orderly blood bank with collections made by the staff as needed and only 10% of the blood supply collected by outside sources, i.e., the Red Cross and other hospitals. There were plans of bigger things to come and the staff was cooperating with NHI in trying to find effective ways of oxygenating blood for extracorporeal circulation.

PHASE 2

Fiscal year 1958 through 1960 - During this period support for the NHI program on extracorporeal circulation was added to the planned output. Fresh blood was required, and, in the early stages of the program, donors were oxygenated before being bled. In order to insure the large quantities of specific blood types at the exact times needed, it was found necessary to use the authority granted earlier by the Director of NIH and pay NIH employees for their blood. The donor space soon proved inadequate and 450

square feet were added in the Admissions and Followup area. A cooperative research program between the Blood Bank and the Hematology Service then demonstrated that it was safe to use 2 day old blood for this kind of surgery. This meant that blood could be "banked" and it became possible to obtain the large volumes needed by placing contracts with outside suppliers. This activity is presently a routine operation for the Blood Bank although it will reach 4,000 or 5,000 units this year - in itself equal again to the original workload estimates for the entire Blood Bank operation. Only 2 people were added to the staff during this period but it was not necessary to have 25% of the supply collected by outside sources. Meanwhile there were again beginnings of a new and larger need. The staff was cooperating with the National Cancer Institute in finding effective ways of transfusing viable platelets to thrombocytopenic patients.

PHASE 3

Fiscal year 1960 through 1962 - During this period the emphasis was on the support of the platelet therapy project of the National Cancer Institute under which still another 4,000 units were again added to the workload. This was again a non-banking operation since just as with the early stages of the National Heart Institute program, fresh blood was required. Although blood was no longer routinely collected at the National Institutes of Health for heart surgery, the donor beds were now needed for the plasmapheresis of volunteers for platelets. In this procedure 20% of the blood volume of a donor is removed at one time and the red cells separated and returned to the donor. This can be tolerated much more often than simple blood donation but the procedure takes almost 2 hours instead of the usual 15 minutes for ordinary donation. It was found that the needs of the National Cancer Institute were such that only 20% of the platelet units could be obtained by plasmapheresis in the Clinical Center and outside supplemental contracts were necessary. Approximately 65% of the total blood supply is now collected by outside suppliers. Again during this phase only 2 people were added to the staff to manage this extra workload. A critical crowding took place in the space assigned to donor activities, necessitating a further de-emphasis of voluntary blood collections.

A third new and important need developed from a cooperative project with the National Cancer Institute in evaluating methods for obtaining large amounts of leukocytes for therapeutic white cell transfusion.

In addition to its intramural activities, the Blood Bank, because of its connection with the Division of Biologics Standards and its progressive policies, has attained a national position consistent with that expected for the rest of this Department. In the Washington Metropolitan area it serves as unofficial reference laboratory to most of the local blood banks. This is because we can offer both laboratory assistance and expert medical advice in the solution of difficult transfusion problems and in addition can usually supply a specific rare blood, if needed. As many as 5 such requests for assistance have occurred in a single day.

ORGANIZATION

A study of the financial management of the Blood Bank was completed just prior to its transfer to this Department. The Blood Bank budget will continue separate from that of the rest of the Department. Interim financing will continue in fiscal year 1963 under the present system whereby general operating costs (personnel and blood for routine therapy) will be provided by the Clinical Center Blood Bank budget and special products for the support of the programs of extracorporeal circulation and platelet therapy will be billed to the National Heart Institute and the National Cancer Institute respectively. Future financing is planned on a modified fee-for-service basis by which the Institutes will be billed monthly for blood ordered, and the fixed costs of the Blood Bank will be budgeted by the Clinical Center. The Management Policy Branch is presently reviewing Blood Bank records and reports to develop adequate billing and accounting procedures.

DEVELOPMENTAL RESEARCH

The Blood Bank during its first four years of operation was able to effect a considerable economy of personnel activity by evaluation and the selection of procedural techniques for routine blood banking. Many of these were published as a guide to other transfusion services. The staff thus was prepared to undertake a developmental program in support of extracorporeal circulation, delineate specific requirements and manage the contracts under which the program presently operates. Again, the guidelines for this activity have been published and form the basis for national standards.

More recently, the working platelet transfusion program was developed here and is presently a working model for other research institutes and blood centers. Meanwhile the requirements for the platelet program have been delineated and an attempt is being made to support the program by outside contracts managed by the Blood Bank. Here again, as for all other parts of its operation, the Blood Bank must have both the high level of technical and scientific skill and the appreciation of the therapeutic situation necessary to maintain quality control to ensure that the products are safe as well as potent.

The recent program emphasis on platelet and white cell transfusion therapy has of necessity temporarily curtailed one basic function of the Blood Bank-developmental research in red cell preservation and immunology. Substitution therapy with platelets and white cells can be as life-saving as red cell therapy. However, improperly preserved and immunologically incompatible platelets and white cells, although ineffective, are not lethal. With red cells there is no such margin of safety to compensate for error.

Also, it was necessary to discontinue the first promising investigation of automated equipment for red cell agglutination techniques. Equipment such as this will prove to have many applications in basic immunology. Contact has been maintained with other workers who decided to proceed with the project after we dropped out and we hope to reinitiate this important project.

## SPECIAL PROJECTS

In the introductory section, reference was made to beginning efforts in white cell collection. Obtaining viable leukocytes is technically a slower and more tedious procedure than obtaining platelets and requires larger space and more personnel effort. The only successes to date have been bleedings from donors with abnormally large numbers of leukocytes. Production from normal donors is essential and more intensive developmental efforts will require a large amount of support.

A collaborative study with the National Cancer Institute has been completed which demonstrates that platelet immunology is not a significant factor in platelet transfusion. Another study was begun to evaluate the antibody response of patients in several disease categories to foreign red cell antigens.

## SPECIAL PROBLEMS

The donor program has operated under an agreement with the American National Red Cross, Montgomery County Chapter. Although during fiscal year 1959 almost 1,000 volunteer donors were bled at the Clinical Center, the volunteer program fell off sharply when donors had to be paid to obtain fresh blood for extracorporeal circulation. This latter kind of blood is presently only collected in special circumstances at the Clinical Center but the donor beds are now needed for plasmapheresis for platelet products. The result has been that only 193 voluntary whole blood collections were made during fiscal year 1962. It is expected that the volunteer program can be reactivated in the new Blood Bank space and a new agreement with the Red Cross will be needed.

### Space

We have explained how the Blood Bank has tripled its planned output and only added 25% to its original space by first performing the developmental research and then negotiating contracts to obtain the special blood products from outside suppliers. However, office space has been practically eliminated - the three Blood Bank physicians are all housed in a half-module. The present bleeding rooms are inadequate to add any white cell collection program and the volunteer donor program has been curtailed. Frequently it is necessary to perform plasmapheresis of patients acutely ill with leukemia immediately beside a routine phlebotomy of a volunteer donor. Large stores of special order plasmapheresis equipment cannot be stocked and manufacturers' production difficulties often threaten the program.

The planned move into new quarters will add about 1,000 usable square feet to the present 2,200 square feet assigned to the Blood Bank. This additional space is needed for the phlebotomy of donors and for the plasmapheresis of patients and of normal donors for platelets and white cells. Temporarily it may be necessary to also house some of the services of the Hematology Service in this area although this is very inefficient because of the unit design.

## Personnel

There are several distinct categories of personnel needed for proper Blood Bank operation. Although many small hospital blood banks use technicians in all operations, much of the unique 10 year record for safety and service compiled by this Blood Bank reflects its personnel structure. The operational chain is that of (1) donor blood collection and plasmapheresis by nurses trained in phlebotomy and transfusion theory; (2) laboratory work, including processing of donor blood, testing of patient's blood, and compatibility testing, by a competent technical staff; and (3) issue of blood and followup of transfusions by nurses familiar with both laboratory and ward procedures who also make all contacts with patient-care physicians.

### (A) Nursing Personnel

Since there was no option in the National Institutes of Health nursing examination announcement for Blood Banking as a specialty, it has been difficult to recruit and retain a competent nursing staff. In addition, valuable personnel have been lost because this work was not accepted as nursing activity and promotions could not be made despite the enormous increases in responsibility resulting from the special types of activities described as phases 2 and 3 above. We understand that this situation will be alleviated when a Blood Bank option is included in the examination announcement for nurses at the Clinical Center. A panel for the Board of U.S. Civil Service Examiners was suggested to include Dr. Williams, Dr. Schmidt and a senior member of the Nursing Department of the Clinical Center.

### (B) Technical Personnel

The activities of this Service are unique in that the final product is not laboratory data which can be interpreted by the patient's physician, but rather a product ready for transfusion which the Blood Bank has interpreted to be compatible. It is for this reason that in the Blood Bank, as in the rest of the Department, the laboratory positions should be filled by professional people from the medical technology series rather than by personnel from the medical technician series who have only on-the-job training. It is planned to fill any vacancies which arise with medical technologists, and create a personnel structure on a par with that of the other Services in Clinical Pathology.

### (C) Research and Development Personnel

Although the red cell agglutination test remains the basic tool of the Blood Bank, the actual techniques and procedural modifications which have been introduced in our Blood Bank have enabled it to take on a 200% workload increase with only a 17% staff increase and without compromise of safety. This has been in part accomplished by careful correlation of laboratory data with studies of clinical effect of transfusion. Some of this activity has been assumed by medical officers on a 2 year assignment, but the overall program remains the function of the Chief of the Service.

He must have professional assistants who are free from the day-to-day service activity in order to devote individual attention to developmental research. This sort of developmental work is as unique to the National Institutes of Health in the field of blood banking as in the rest of Clinical Pathology and is of course part of our mission of adaptation of research techniques to everyday patient care. At present one GS-7 biologist has part of her time available for developmental work as part of the special procedures she routinely performs in patient care services. These procedures involve the application of advanced techniques for the characterization of the antibodies of our unique recipient population of multitransfused patients. These skills in immunologic technique are of course in great demand and this person has received offers of employment at a higher grade elsewhere at NIH. The importance of developmental work and special procedural work by non-supervisory personnel must be recognized by an appropriate grade structure. This laboratory should be staffed with a senior research assistant at the doctoral level and two professional technical persons.

(D) Clerical Personnel

We are awaiting the results of a survey in progress by the Management Policy Branch for an evaluation of our clerical needs. The bookkeeping involved in assigning costs is a major new and additional problem and is greatly complicated by the fact that every attempt is made to avoid wastage of blood components. As an example, a 500 ml. unit of blood from one donor might be divided on the day received into three fractions: a platelet concentrate transfused on that day; a unit of packed red cells transfused to a second patient three weeks later; and a unit of single donor plasma transfused to a third patient seven months later. All of these patients may be in different Institutes and this calls for a complex record system and in the future an equally intricate billing system. It is hoped that the experience of this Department in automatic data processing can be applied to this problem.

PRESENTATIONS

Schmidt, P.J.
An Etiologic Study of Transfusion Reactions,
U.S.P.H.S. Clinical Society, Bethesda, April 1962

Schmidt, P.J., and Stohlman, F.
Limits of Usefulness of Erythrocytes Frozen in Glycerol,
Congress of the International Society of Blood Transfusion,
Mexico City, September 1962

Schmidt, P.J.
Frozen Storage of Human Red Cells,
Conference of the Delaware-District of Columbia-Maryland
Hospital Association, Washington, October 1962

In addition, in August Dr. Schmidt made a study of the transfusion services at the Children's Hospital of the District of Columbia at the invitation of the Director of Laboratories.

## FUTURE PLANS

The immediate future of the Blood Bank should bring about the budgetary, organizational and space changes referred to in the preceding descriptions of specific problems. Closer liaison with the patient care staff for the evaluation of the effects of platelet transfusion and for work in platelet and white cell separation and preservation may require a joint appointment in the National Cancer Institute for a blood bank physician. Automated red cell agglutination will be attempted. The review of the Blood Bank records for evaluation of test procedures will continue but some of the older records must be microfilmed or stored in some other way.

AWARDS

Mrs. Wanda Chappell, Mrs. Elsie Yanchulis, Mrs. Marguerite Rowen and Miss Marian Siglin: Superior Performance - Group Award

PUBLICATIONS

Avioli, L.V., Lazor, M.Z., Cotlove, E., Brace, K.C., and Andrews, J.R.: Early Effects of X-Irradiation on Renal Function in Humans. Amer. J. Med., in press.

Brecher, G., Jakobek, E.F., Schneiderman, H.A., Williams, G.Z.., and Schmidt, P.J.: Size Distribution of Erthrocytes. Ann. N.Y.Acad.Sci. 99: 242-261, 1962.

Cotlove, E.: Determination of the True Chloride Content of Biological Fluids and Tissues: I. Analysis by $Cl^{36}$ Isotope Dilution. Anal. Chem. in press.

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Cotlove, E., and Hogben, C.A.M.: Chloride. In Comar, C.L., and Bronner, F. (eds.): Mineral Metabolism: An Advanced Treatise. New York Academic Press, 1962, vol. II, pp. 109-173.

Gladstone, G.P., Mudd, S., Hochstein, H.D., and Lenhart, N.A.: The Assay of Anti-Staphylococcal Leucocidal Components (F and S) in Human Serum. Brit. J. Exp. Path. 43: 295-312, 1962.

Marsh, H.H.: A Modification of the Klett-Summerson Colorimeter. Amer. J. Clin. Path. 37: 115-116, 1962.

Mudd, S., Gladstone, G.P.. Lenhart, N.A., and Hochstein, H.D.: Titrations of Antibodies Against Alpha Haemolysin and the Components of Staphylococcal Leucocidin in Human Subjects Following Immunization. Brit. J. Exp. Path. 43: 313-319, 1962.

Williams, G.Z.: Clinical Pathology Tomorrow (Ward Burdick Award Contribution). Amer. J. Clin. Path. 37: 121-124, 1962.

Williams, G.Z.: Instrumentation for Time-Lapse Ultraviolet Television Microscopy. Ann. N.Y. Acad. Sci. 97: 358-363, 1962.

Zierdt, C.H., and Marsh, H.H.: Optimal Concentration of Phage for Typing of Staphylococci. Amer. J. Clin. Path. 38: 104-108, 1962.

PUBLIC HEALTH SERVICE, NATIONAL INSTITUTES OF HEALTH

SUMMARY ANNUAL REPORT OF PROGRAM ACTIVITIES
CLINICAL CENTER

CC-38
Serial No.

REHABILITATION DEPARTMENT

During calendar year 1962, as in previous years, the Rehabilitation Department continued to carry out its basic function of patient treatment, using recognized, effective measures of physical, occupational, and speech therapy. A major addition to this function was made during the year, viz., electromyography, details of which will be given later in this report. Again, a large number and wide variety of tests and measurements were carried out for Institute physicians primarily for evaluation of functional ability and progress, but also in connection with diagnosis and determination of effectiveness of drug and other therapy.

The numerous specific services provided by the Department are listed in the Summary Annual Report for Calendar Year 1959 (pages 1-3) and are not repeated herein in the interest of economy of space.

SPECIAL PROGRAMS

The special programs which were continued into calendar year 1962 include: 1) Weekly measurements of joint range of motion and determination of joint range percentage deficits for rheumatoid arthritis patients on drug studies. 2) Pre- and postoperative evaluation and treatment of heart surgery patients. These patients are referred for orientation preoperatively and are seen again postoperatively to prevent joint range-of-motion losses and to help them achieve normal functional capacity. 3) Pre- and postoperative evaluation of patients with neurologic disorders who are being considered for operative procedures. The evaluations are concerned with functional activities and capacities, and are submitted to the neurosurgical staff as an aid in final evaluation of surgical results. 4) Treatment of patients with cystic fibrosis, using breathing exercises and postural drainage technics. Instruction of patients and parents is emphasized as part of a home program. 5) Evaluation of the use of plaster casts and splints in the treatment of patients with rheumatoid arthritis. Review of data covering 5 years' experience, through June 30, 1962, reveals that a total of 912 casts or splints have been applied. Effectiveness of a very high order has been observed in two specific areas, viz., the correction of knee flexion contractures, and in achievement of relief from pain and enhancement of function in the arthritic hand and wrist.

## ELECTROMYOGRAPHY

Electromyography is the study of the electrical activity of muscle. In usual clinical practice a needle electrode is inserted into skeletal muscle and this electrical activity is seen on a cathode-ray oscilloscope and heard over a loudspeaker. Abnormal forms and patterns of activity are susceptible to some extent of interpretation in terms of the nature of the disease process and its location. Electromyography is only an aid in diagnosis, and the results must be integrated with the history, clinical examination, and results of other tests.

Repetitive nerve stimulation is another form of study utilizing the same electronic apparatus. Fatigue may be demonstrated by a falling amplitude of the induced potentials.

The third study which is commonly done is the measurement of conduction velocity between two points on a nerve. Certain abnormal conditions are accompanied by a distinct slowing of the average normal conduction velocity.

From May 18, 1962, when responsibility for electromyographic and allied studies was assumed by the Rehabilitation Department, until the end of the calendar year, a total of 144 electromyograms were done. During the same period, 13 stimulation studies were performed and 71 nerve conduction velocities were measured. The work has been shared among the chief of the department, the assistant chief, and one of the clinical associates of NINDB.

## STAFF TRAINING

In June 1962, Miss Vida Jo Niebuhr, Chief, Physical Therapy Service, attended a one-week course in Physical Therapy in Public Health at the University of North Carolina.

Miss Ruth Singleterry, Assistant Chief, Occupational Therapy Service, attended the Institute for Occupational Therapists sponsored by the American Hospital Association and the American Occupational Therapy Association in Cleveland, Ohio, May 21-25, 1962.

Miss Laura Dougherty of the Occupational Therapy Service attended the Workshop on Rehabilitation of the Mental Patient, June 7-9, 1962, at the Institute of Crippled and Disabled, New York City.

Throughout calendar year 1962, the Department provided orientation and training programs for its new staff members, and also participated in in-service training courses, orientation lectures, and Rehabilitation Department tours for a large variety of Clinical Center personnel, including Gray Ladies, Social Service staff, Nutrition Department personnel, Nursing Department staff, and others.

## EQUIPMENT AND SPACE

No purchases of major new equipment were made during the year, although a substantial amount of electronic equipment was acquired. When electromyography was begun as a Department function, a property transfer was made from NINDB.

This included amplifiers, oscilloscopes, stimulator, camera, and related film developing equipment, sterilizer, hospital table, etc.

There was no change in total Department space but adjustments were required for its utilization. After trials in various areas, Room 5D36A which was in use as the office of the Chief, Physical Therapy Service, was found most suitable for electromyography by reason of size, accessibility and freedom from electrical interference, and installation of equipment was finally completed. A new office for the Chief, Physical Therapy Service, will be made by partitioning off the north end of Room 5D45 which contains the therapeutic pool.

PERSONNEL CHANGES

A number of personnel resignations were effective during calendar year 1962 and new appointments were made. At the close of the year, personnel totaled 27, with one vacancy in the Occupational Therapy Service.

PUBLIC HEALTH SERVICE, NATIONAL INSTITUTES OF HEALTH

SUMMARY ANNUAL REPORT OF PROGRAM ACTIVITIES
CLINICAL CENTER

PHARMACY DEPARTMENT

CC-42
Serial No.

The Pharmacy Department is composed of the following services: Pharmacy, Central Sterile Supply, Pharmaceutical Development, Radiopharmaceutical, and the Office of the Chief. During 1962, Department activities have again been expanded, particularly in the Radiopharmaceutical Service and the Pharmaceutical Development Service. During the year the position of Assistant Chief of the Pharmacy Department was established. It was hoped that this position could be filled by Mr. Carl Brown, who had the administrative abilities required. However, before such an assignment could be made, Mr. Brown was retired from the Service for health reasons. This was a definite loss, but the Department was fortunate to have another qualified pharmacist on the staff; in September 1962, Mr. William H. Briner was appointed Assistant Chief of the Pharmacy Department and, in addition, retained his responsibility as Chief of the Radiopharmaceutical Service.

The Department catalogue has again been revised for redistribution during the early months of 1963. A complete revision of the drug information file is being carried on within the Department.

The Pharmacy Bulletin has been revised in its content and format. It is scheduled to be a bi-monthly publication of the Department, discussing the various services available, and generally giving information to the users of the services.

A 5.5% increase in services has been experienced by the Department during the fiscal year 1962. The individual increases will be discussed under the appropriate service reports.

Pharmacy Service -- The Pharmacy Service experienced a 9% increase in units of issue during the fiscal year 1962; this has resulted in a necessary budgetary increase in order to supply this sizeable increase in service. A supplemental control of prepackaged medications has been instituted in order to eliminate from the nursing units possible "old containers" of medications. Frequently these "old containers" can deteriorate below their labeled potency and thus become less effective for treatment. The supplemental system consists of affixing a self-adhering label with a 1-year expiration date on all prepackaged items, with the exception of antibiotics and biologicals which already bear a manufacturer's expiration date. All containers of bulk chemicals, when received in the Pharmacy, have the date of receipt affixed by a label on the container. This procedure allows proper

rotation of chemicals and further enables professional personnel to better determine the quality of the chemicals. Plans are being developed to revise methods of packaging and dispensing the materials to the nursing units. These plans will be investigated during the coming year with two main objectives in mind: (1) better service and safer medication for the patient care area, and (2) more economical personnel requirements to accomplish the improved service.

One piece of new processing equipment was obtained during the year: an Erweka Colloidal Mill which will be useful in pilot type studies of drug formulations.

Central Sterile Supply Service -- In the Central Sterile Supply Service, issues increased 5% during fiscal year 1962 to a new total of 3,785,547 units. In the 1961 annual report the following statement was made: "Undoubtedly, the total will rise close to 4 million units in the coming year." During the calendar year 1962, the units issued reached a total of 3,985,094. The largest increase was in the sterile solutions issue, which had a 31.1% increase to a new total of 73,839 units. The evaluation of new products is being continued, as is the evaluation of new procedures for processing materials within the department.

The Pharmacy Department personnel are ever alert to provide more complete and "ready for use" items to the physicians and nurses in the patient care areas.

One of the most popular wrapping materials, Kraft paper tubing with tear string insert, is no longer being manufactured. This necessitates the use of flat paper in wrapping some items formerly packaged in tubing.

Tray revisions have been approved, and will be instituted upon the receipt of the necessary equipment. A visual procedural manual has been completed for use in the surgery packaging area. This manual includes a picture with the complete contents of each package and tray prepared.

During the year, sterile linen has been packaged for the Formula Room. This is a service to an additional department, and has resulted in an issue of approximately 2,000 units per month.

An additional service being performed for the Anesthesiology Department is the sterilizing of patient care equipment, such as Croupettes, in the ethylene oxide gas sterilization apparatus. Other newly instituted special services include an orthopedic cart for the National Institute of Arthritis and Metabolic Diseases nursing service; cuffed trachea tubes for surgical and post-surgical patients; Lymphangiogram administration sets; and modified Vim-Silverman liver biopsy needles for use in bone marrow biopsy procedures.

Also during the year the specifications for Tygon tubing for the heart-lung machines were rewritten to require tubing with tolerances of 5/1000 of an inch for both inside and outside diameters. As a result, after considerable time spent in measuring tubing, there has been at least a 50% rejection of

all lots of tubing received.

The problem of additional space, previously reported in 1961, is becoming critical. During 1962 it was necessary to expand surgery packaging area at the expense of all other work areas. As a result, we have cramped working space in the needle area, the tray area, and the general packaging and assembly areas. This is likely to cause a decrease in efficiency in spite of all our efforts. Because predictions indicate that the surgery packaging area will require more space in the coming months, our need for additional working space in the Pharmacy Department is urgent.

The location of the space assigned on the 12th floor for storage of loan equipment is highly unsuitable; almost the total time of one employee is consumed in traveling to and from the location by elevator, since the equipment must be transported from the nursing units to the Central Sterile Supply area for cleaning and checking, and thence to the 12th floor to be stored until it is again required.

An ultrasonic high pressure-high temperature washing machine which was received during the year is now being installed and tested; a glove washer was replaced; and a small ethylene oxide sterilizer was exchanged for a new model at no cost to the Government. A glass-topped stainless steel table was fabricated for linen inspection for the surgery packaging area.

Pharmaceutical Development Service -- In February 1962, Dr. Joseph F. Gallelli was appointed Chief of the Pharmaceutical Development Service. Dr. Gallelli is a graduate of Temple University in Philadelphia, with a Master of Science degree in manufacturing pharmacy, and a Ph.D. Degree in physical pharmacy with a minor in physical chemistry.

The Pharmacy Department has a working relationship with the Cancer Chemotherapy National Service Center of the National Cancer Institute. The newest materials are furnished in powder form to the patient-care physicians of the Clinical Center. In order to process these materials into the finished products, a pharmacist employed by the National Cancer Institute has been assigned to the Pharmaceutical Development Service. In addition, this pharmacist performs formulation work for the Cancer Chemotherapy National Service Center which is forwarded to other co-operating hospitals.

The Pharmaceutical Development Service continues to be concerned with the development and formulation of suitable dosage forms of clinical drugs for investigational use. Attempts are continually being made to require strict registration in the control and dispensing of clinical investigational drugs. This is reflected to some extent by the increase of investigational drugs registered: from 298 in 1961 (fiscal year) to 358 in 1962 (fiscal year). An even more significant increase occurred in calendar year 1962: from 321 in 1961 to 402 in 1962. There has been an increased attempt to establish quality control procedures for all products developed and formulated into dosage forms. The range of products continues to include all types of pharmaceutical products such as parenterals, tablets, capsules, ointments, solutions, suspensions and dental preparations. The standard procedure in the quality

testing of each drug, once it has been developed, is as follows:

A. The product must be chemically or biologically assayed for its principal ingredient(s).

B. If a method of assay is not available, such a method is developed before the product is formulated and issued.

C. All products have a quality control procedure established and permanently recorded, so that duplication at a later date is simplified.

D. When possible, extended shelf-life studies are performed to determine the stability of a product.

During the past year, 17 new parenteral products not commercially available have been formulated for human use. The names of all are very complicated, and therefore only three examples will be given:

Isophthalanilide, 4'4" di-2-yl, Dihydrochloride Injection

2-nitro-2-imidazolin-2-yl-Terephthalanilide Dihydrochloride Injection

16$\alpha$-Hydroxyprogesterone Injection

Seven new tablet formulations were prepared, as were two ointment preparations and three oral solution preparations, none of which are commercially available. Five double-blind studies were instituted during the year and are under continuing study within the Clinical Center.

Methods of assay have been determined in the Pharmaceutical Development Service which are not available from any other source. These were developed in order to assure the clinician of the potency of the products; they included eleven new drug formulations, all of which were injectable preparations.

In the total of 402 drugs registered for calendar year 1962, there were 150 new drug products received. The remainder includes a number of re-registrations of new lots of investigational drugs during the year.

One of the major problems still facing the Pharmaceutical Development Service is the analytical quality and control requirements. For this function, we need additional space and personnel. The assays must be performed within the Department, since the clinicians depend upon quality products and these assays are not available at any other level. It has not been possible to depend upon industrial quality control information, inasmuch as industry has not developed these products; and, further, we cannot depend upon receiving assay information from the Institute laboratories, which are not set up for this type of activity. Therefore, it is essential that this increased activity be performed within the Clinical Center Pharmacy Department. As more specific and more complicated drugs are developed, the need for this service will increase.

Equipment of note received during the year to aid in the processing and assaying of materials includes: (1) Brinkman's Desaga Thin-Layer Chromatography Apparatus, (2) Beckman Infrared 5A Spectrophotometer, and (3) Klett-Summerson Colorimeter.

Radiopharmaceutical Service -- The Radiopharmaceutical Service has again shown a tremendous growth in services performed. There have been many requests for service which were delayed or could not be performed due to space limitations -- particularly, space for personnel to carry on radioactive procedures.

Some of the significant accomplishments during the year were as follows:

(1) After extensive research and development, a procedure was formulated for the routine labeling of plasma proteins, both globulin and albumin fractions, with either $I^{131}$ or $I^{125}$, for the Metabolism Service of the National Cancer Institute. While the iodination of proteins itself presents no serious problems, the difficulty lay in preparing a labeled end-product that would behave biologically in a fashion equivalent to that of its non-radioactive counterpart. This has not been accomplished by industrial sources, but is being supplied by the Radiopharmaceutical Service.

(2) Basic research was undertaken into the interaction of certain plastic materials used in medicine and pharmacy with common solutes and solvents. This is a continuing project, conducted in part by this Service and in part by the Drug-Plastic Research Laboratory of the University of Texas.

Other significant services performed by personnel of the Radiopharmaceutical Service include an increasing number of consultations, both intramural and with sources outside the National Institutes of Health -- for example, individuals from industry, medical schools and centers, pharmacy schools; domestic and foreign atomic energy establishment personnel; and individual physicians requesting information and the opportunity to visit with us to discuss their problems.

Although these services cannot be indicated in workload statistics, it is felt that this is one of the most important functions of the Radiopharmaceutical Service.

Our major problems are still essentially the same as those reported in the 1961 annual report. The most serious is the continuing problem of lack of adequate processing space. Additional space has been requested upon numerous occasions; the lack of space has been a serious hindrance, and has resulted in unusual demands and problems for the entire Service.

Problems frequently arise in the scheduling of formulation procedures requested by individual investigators, resulting in delays of a week or more on some occasions. This is due in part to the lack of formulation space, and in part to the limitation of one pyrogen test per day for radioactive products imposed by the Division of Biologic Standards.

Major equipment obtained during the year for processing and quality control of radiopharmaceutical products includes: (1) Gamma-Ray Spectrometer with Well Detector, (2) Radiochromatogram Scanner with Recorder, and (3) Automatic Three-Channel Liquid Scintillation Spectrometer.

The Pharmacy Department has had a very active and rewarding year. We hope that our major problem, lack of space, may be alleviated during the coming year in order to permit more complete and efficient service to the patient care areas. Without additional space, it may be necessary to limit the quantity of service rendered to its present level in order to retain its high quality.

Our other problem -- recruiting and retaining highly-trained personnel under our existing pay scale -- is still unsolved. Until the large differential between the pay of pharmacists in the Clinical Center and the pay they can demand from other sources is lessened -- that is, until our pay scales are increased -- we have no hope of a solution for this problem.

## PHARMACY DEPARTMENT STATISTICAL DATA

| | 1960 (Fiscal) | 1960 (Calendar) | 1961 (Fiscal) | 1961 (Calendar) | 1962 (Fiscal) | 1962* (Calendar) |
|---|---|---|---|---|---|---|
| Total number of units issued | 3,613,102 | 3,768,950 | 3,983,327 | 4,097,653 | 4,204,384 | 4,435,634 |
| **Pharmacy Service** | | | | | | |
| Prescriptions | 24,907 | 24,989 | 26,570 | 29,383 | 31,867 | 32,595 |
| Other items | 244,010 | 249,226 | 251,598 | 262,414 | 268,057 | 299,412 |
| Prepackaged items | --- | --- | 64,132 | 71,093 | 73,121 | 67,797 |
| Total | 268,917 | 274,215 | 342,300 | 362,890 | 373,045 | 399,804 |
| **Central Sterile Supply Service** | | | | | | |
| Units issued | 3,320,222 | 3,457,763 | 3,602,498 | 3,691,857 | 3,785,547 | 3,985,094 |
| **Pharmaceutical Development Service** | | | | | | |
| Units developed and issued | 21,912 | 34,983 | 36,819 | 41,427 | 44,113 | 48,552 |
| Requests processed | 923 | 1,010 | 1,423 | 1,935 | 1,911 | 2,033 |
| Investigational drugs registered | 339 | 302 | 298 | 321 | 358 | 402 |
| **Radiopharmaceutical Service** | | | | | | |
| Units developed and issued | 2,051 | 1,989 | 1,710 | 1,479 | 1,679 | 2,184 |
| Requests processed | 303 | 357 | 311 | 330 | 453 | 571 |
| **Pharmacy Officer of the Day** | | | | | | |
| Number of requests for service | - | 910 | 1,240 | 1,134 | 1,268 | 1,463 |

*Totals are estimated for December 1962

Part B Honors, Awards, and Publications

Honors

Milton W. Skolaut

President-Elect; Chairman, Resolutions Committee; and member of Board of Directors, American Society of Hospital Pharmacists.

Symposium member: "Some Aspects in the Developing, Handling, and Control of Investigational Drugs," American Association for the Advancement of Science, Philadelphia, Pa., December 29, 1962.

Contributing Editor to the American Journal of Hospital Pharmacy, section entitled "Pharmacy-Central Sterile Supply Service."

William H. Briner

Appointed Chairman, Committee on Radiopharmaceuticals, and member of the Committee on Laws and Legislation, both of the American Society of Hospital Pharmacists.

Appointed member of The National Formulary Advisory Panel, in the area of Radiopharmaceuticals.

Elected full member in the Society of Nuclear Medicine while in attendance at the Annual Scientific Meetings of the Society in Dallas, Texas, June 1962.

Donald E. Hill

Member, Committee on Radiopharmaceuticals, American Society of Hospital Pharmacists.

Publications

Milton W. Skolaut

"Ethylene Oxide Gas Sterilizer," American Journal of Hospital Pharmacy, No. 3, Volume 19, March 1962.

Review of Symposium on "Recent Developments in the Sterilization of Surgical Materials," American Journal of Hospital Pharmacy, Volume 19, No. 9, September 1962.

Review of "Comparative Study of Central Supply Service Administered Under Nursing and Non-nursing Management." To be published in the American Journal of Hospital Pharmacy.

Milton W. Skolaut and William H. Briner

Co-authored, with Dr. John Autian (University of Texas), "The Study of Interaction of Drugs with Plastics Utilizing Liquid Scintillation Spectrometry as a Means of Detection." Presented at AAAS meeting in Philadelphia, Pa., December 1962.

Paul J. Pierpaoli

"The Penicillins," Pharmacy Bulletin, Volume 9, No. 42, October 1962.

"Factors to be Considered in Parenteral Administration," Pharmacy Bulletin, Volume 9, No. 43, December 1962.

"Some Historical Aspects of Hospital Pharmacy in Italy," American Journal of Hospital Pharmacy, Volume 19, June 1962.

## Professional Activities

Milton W. Skolaut

Attended convention of International Pharmaceutical Federation, Vienna, Austria, September 1962. Visited hospital pharmacies in Zurich, Switzerland; Copenhagen, Denmark; Stockholm, Sweden; London, and Cambridge, England.

Attended conference on Hospital Pharmacy Internship Accreditation, Washington, D. C., December 1962.

William H. Briner

Presented paper "The Preparation of Radioactive Chemicals for Clinical Use" at the Sixth Annual Symposium on Recent Advances in Tracer Methodology, New York City, November 1962.

Presented paper at meeting of the Virginia Society of Hospital Pharmacists, Richmond, Va., "Technical Aspects of Radiopharmaceutical Practice," November 1962.

Participated in orientation team for staff of "Medicine-USA," presented in the USSR by the USIA.

Served as faculty member in two NIH Isotope Training Courses.

Donald E. Hill

Participated in orientation sessions for new Nursing Department employees.

Jules Meisler

Presented paper "Control of Investigational Drugs at National Institutes of Health" at the annual meeting of the Clinical Society of the United States Public Health Service, October 1962.

Completed NIH Isotope Training Course.

Donald B. Hare

Attended Symposium on Parenteral Solutions, Iowa City, Iowa, January 1962.

Attended Institute on Central Service Administration, Minneapolis, Minnesota, November 1962.

Calendar Year 1962

PUBLIC HEALTH SERVICE, NATIONAL INSTITUTES OF HEALTH

SUMMARY ANNUAL REPORT OF PROGRAM ACTIVITIES
CLINICAL CENTER

MEDICAL RECORD DEPARTMENT

CC-46
Serial No.

## OBJECTIVES

The Medical Record Department is delegated the major responsibility of insuring the completeness, accuracy, safekeeping, and availability of medical records by maintaining the following internal controls: (1) Continual appraisal of the medical records of patients registered at the Clinical Center, in order to maintain the standards established by the Clinical Center and accrediting agencies. (2) Maintenance of required indexes; namely, the analysis of discharged patients and the diseases and operations index with a view toward providing adequate basic data to physicians participating in medical research. (3) Maintenance, compilation, and distribution of statistical data concerning patient care for utilization by administrative, clinical, and research directors. (4) Maintenance of a systematic arrangement of medical records to insure their immediate accessibility for purposes of patient care service and medical research. (5) Maintenance of a system whereby the quantity and quality of dictated medical record reports are controlled. (6) Maintenance of an adequate control system with regard to the release of medical reports, medical information, and medical records to authorized recipients. (7) Maintenance of a perpetual patient's index (Soundex) and patient registry.

## MAJOR PROGRESS

Education and Training. Arrangements were made to have key personnel attend seminars and institutes relating to organization and management, automatic data processing application, techniques of new office equipment, and lectures on a variety of clinical subjects.

Orientation of new employees from this Department, Clinical Center Departments, and Institutes was accomplished. Lecture tours continue to be given to Public Health Service medical record librarian students and other visitors to the Clinical Center.

Intradepartmental training was strongly emphasized with a view toward increasing the capability and versatility of personnel.

Personnel. The number of employees on duty 31 December 1962 was 75; of this number 19 were part time and 3 on temporary appointments. Of particular importance is the fact that during the summer months, an extensive turnover of personnel was experienced. The delay in completion of the Personnel Audit seriously handicapped the promotion channels within the Department.

A major portion of the audit was completed in November; several key positions remain to be audited. It is anticipated that the total audit will be completed early in 1963.

Departmental Activities. In order to reduce the number of potentially lost medical records, formal notification is forwarded to the appropriate Clinical Director and/or Departmental Chief when it is apparent that a medical record has been misplaced.

Upon request, existing record systems in other Clinical Center Departments and Institutes were evaluated with a view toward improvement in record management.

To execute basic controls properly, standard operating procedures were supported and new ones developed. Specifically:

A new arrangement was made for the presentation of the Daily Report of Admissions and Discharges; namely, alphabetical listing by patient name and a method for indicating those patients who have more than one referring physician.

Annual clearance of physicians leaving the Clinical Center demanded a critical analysis of existing procedures for this action. As a result, new and improved procedures were established and initiated.

Clinical Record forms as well as Medical Record Department Administrative Medical Record forms were examined, revised, and approved for use.

The Medicolegal Procedure Book was revised to include policy governing the release of medical information.

The Medical Record Department Handbook was revised and published in July.

A reference source consisting of acceptable abbreviations, prefixes, and suffixes was prepared to aid in the transcription of medical reports.

The study relating to the illegibility of reports produced by means of the offset duplicating system, which was begun in 1961, has been completed with satisfactory results.

PRODUCTION

The production report is based on work performed during 252 actual working days and 914 hours of overtime which was approved and reported.

The Research and Statistics Section reviewed and circulated incomplete medical records daily; there were 737 incomplete records reported for the period from June 1961 through 30 November 1962. Requests for 68 special medical research and statistical studies were processed. The coding and indexing for the period from July 1953 through December 1959 has been completed

with the exception of nine medical records which have been reported as lost. The number of cases indexed and coded during the year was 2201. The status of the coding and indexing for discharges in the remaining calendar years is summarized as follows:

| | CY 1960 | CY 1961 | CY 1962 |
|---|---|---|---|
| Number of discharges | 3658 | 3863 | 4134 |
| Completed as of 31 December 1962 | 2217 | 3073 | 167 |
| Remaining as of 1 January 1963 | 1441 | 790 | 3967 |

The Files Section processed and delivered a total of 124,847 medical records for purposes of review and study, 2370 medical records relating to inpatient readmissions and 20,251 medical records relating to follow-up visits. A total of 32,998 masters was reproduced by means of offset duplication. Material reproduced by means of verifax numbered 11,104; the material included clinical reports, correspondence, insurance forms, and other related material.

The Transcribing Section required 756½ hours of overtime or 95 additional workdays in order to keep abreast of the volume of incoming work. The status of their production is summarized as follows:

| | Daily Average | TOTAL | Compared to 1961 |
|---|---|---|---|
| Discs received | 37 | 9292 | 6% Increase |
| Discs transcribed | 36 | 9199 | 5% Increase |
| Reports (pages) transcribed | 117 | 29,524 | 2% Decrease |
| Remaining work | - | 287 | 15% Increase |

The remaining work reported in the above table constitutes the backlog which is mentioned as a major problem under Medical Transcription.

The Medicolegal Section received, screened, completed, or prepared for mailing purposes 7,605 pieces of material and the material reproduced by means of verifax numbered 6,377. This material consisted of clinical reports, correspondence, insurance forms, and other related material.

MAJOR PROBLEMS

Coding and Indexing. Lack of sufficiently trained personnel has restricted the progress of the coding and indexing of diagnoses and operations.

Communications. On a number of occasions this department has learned, after the fact, that new policies and procedures have been adopted by Clinical Center Departments or Institutes; in many instances these new developments have a direct bearing on the responsibilities of the Medical Record Department. Accurate and current information is absolutely essential if efficient service is to be rendered.

Location of Medical Records. In spite of extensive controls, physicians repeatedly fail to take precautions relating to the safeguarding of medical records which have been placed temporarily in their custody.

Lost Medical Records. Exhaustive searches are made when it is apparent that a record is temporarily misplaced. During this calendar year one record has been declared permanently lost; there is a total of 14 reported lost medical records since the opening of the Clinical Center in July 1953.

Medical Transcription. For the period from July through December 1962, these factors contributed heavily to a backlog: the increased volume of work, personnel turnover, and the decreased number of employees in the Transcribing Unit.

Minimum Record Requirements. Evaluation of existing standards is considered essential, particularly those governing follow-up patients, relatives of Clinical Center patients, and patients admitted for screening and/or research testing. Because of various interpretations of existing standards, the task of enforcing them in accordance with the By-laws has become insurmountable. It is interesting to note that an extensive qualitative review of 700 follow-up medical records revealed that 75% did not meet the established minimum record requirements.

Storage of Medical Records. Area for storage and permanent filing of medical records is no longer adequate. Studies have been conducted for the past 2 years in order to alleviate this critical situation. Evidence has indicated that the only solution, other than microfilming, would be to acquire additional shelving space.

Temperature Control. Because thermostatic control continues to be a problem, on 22 August 1961 a request was made for a survey in order to correct atmospheric working conditions. As a result, louvered panels were installed in corridor doors, with no noticeable improvement. In November 1962, a follow-up investigation revealed that further corrective action would be needed.

PROPOSED FUTURE OBJECTIVES

Recruit and employ two medical record librarians.

Eliminate the backlog in the coding and indexing of diagnoses and operations.

Prepare a control book relating to authorized clinical reports for inclusion in the medical record proper.

Revise and up-date procedure manuals for the two remaining Medical Record Sections.

Institute, in conjunction with a personnel representative, the "NIH Basic Course for Supervisors."

Continue to investigate possible applications of automatic data processing equipment.

STATISTICS - Fiscal Year 1962

I. Registration

| | |
|---|---|
| A. Patients | 6,460 |
| Inpatients | 3,971 |
| First registration | 1,686 |
| Readmission | 2,283 |
| Follow-up patients (first registration) | 2,402 |
| Walk-in | 51 |
| Emergency | 36 |
| B. Employee registration | 2,989 |

II. Patient Care Statistics

| | |
|---|---|
| Total number of admissions | 3,971 |
| Percentage of increase as compared to 1961 admissions | 6 |
| Total number of discharges (includes 255 deaths) | 4,002 |
| Total patient days | 142,739 |
| Available bed days | 188,340 |
| Average daily census | 391 |
| Average length of stay | 36 |
| Percentage of occupancy | 76 |
| Total number of deaths | 255 |
| Percentage of deaths | 6 |
| Total number of autopsies | 241 |
| Percentage of autopsies | 95 |
| Discharged patient days | 142,573 |
| Total number of patients admitted from 6 July 1953, to 30 June 1962 | 25,379 |
| Percentage of patients admitted during FY 1962 from Maryland, Virginia, and the District of Columbia | 45 |
| Number of admissions - 16 and under * | 449 |
| 14 and under | 403 |
| *Average length of stay | 36 |
| *Percentage of actual bed days utilized | 76 |

Calendar Year 1962

PUBLIC HEALTH SERVICE, NATIONAL INSTITUTES OF HEALTH

SUMMARY ANNUAL REPORT OF PROGRAM ACTIVITIES
CLINICAL CENTER

NURSING DEPARTMENT

CC-51
Serial No.

PROGRAM GOALS

The major goals of the Nursing Department remain the same: (a) To provide, with the staff available, the best possible nursing care to patients; (b) to provide assistance to the clinical investigators; (c) to orient, train, and supervise personnel so that they may become more proficent in carrying out (a) and (b); and (d) to do research and studies which will help us improve nursing practice and nursing administration.

PROGRESS MADE

A review of our projected plans for 1962 indicates that we have made some slight progress. We are progressing in our research activities to the extent that we are well into the project of studying nursing care through the use of television and are finding television a useful observational tool. We have taken groups for observational tours on the Metabolic Units at specified times as often as it was possible to do so. There is still a good deal to do in this area, both for ourselves and for our visitors, which the staff has not found time to plan and organize satisfactorily.

DEVELOPMENTS AND TRENDS

There has been an increasing demand for nursing services because of the number and kinds of patients admitted to all Clinical Services. During the past several months the Census has remained high (going to 86% of occupancy at times) with many very ill patients who required a high quota of nursing care. At the same time, the number of full-time nursing personnel available to give this care has been the lowest since 1959. In January 1962, we had 596 employees, the highest for the year; and in August, 570, the lowest for the year. During the calendar year 1961, we averaged 600.9 personnel per day, with a high of 621.

The workload on the Cancer Nursing Service has become increasingly heavy, not only because of a high census but also because of the many very ill patients on the units and the many medical orders written for them. The chemotherapeutic agents administered to patients with leukemia, both

children and adults, require a great deal of nursing time in preparing solutions, regulating the flow, changing from one drug to another several times a day for each patient, and observing the patient during the whole time these drugs are given. On the Cancer Nursing Service alone, 23,566 individual units of intravenous medication, whole blood, and other blood products were administered. Also, on the Cancer Service, 16,056.75 additional nursing hours were provided by part-time nursing personnel, overtime work by full-time staff, and assignment of personnel from other Services, in order to meet the needs of patients and to assist with research procedures. If the demands were as great on the other five Nursing Services, we would be unable to meet them, and the standards of nursing care would be greatly reduced. It is our feeling that we are not providing the high standard of nursing care necessary for an all-research institution and that there has been a gradual diminution of care during the past 6 months. For the first time since the Clinical Center opened we have given an average of less than 6 hours of nursing care per patient per day.

There has been a shift in our pediatric census with more children admitted to the Neurology and Arthritis and Metabolic Diseases Services and fewer to the Heart and Infectious Diseases Services.

The number of surgical procedures, both major and minor, were greatly increased during the past fiscal year. The greatest increase was on the Cancer Service (from 539 in fiscal year 1961 to 700 in fiscal year 1962).

MAJOR PROBLEMS

1. Recruitment of a sufficient number of professional personnel remains a problem for which there seems to be no solution. We are also having problems filling positions for male nursing assistants and clerical personnel. The increasing need for personnel in the Institutes and other Divisions of the National Institutes of Health has made problems for us, since a goodly number of our male nursing assistants and clerical staff have transferred to them either because of higher salaries or more desirable working hours and working conditions.

2. Children are segregated only on the Cancer Nursing Service, and even on this service there are times when they must be housed on other nursing units. The daily average number of children on the Cancer Service was 21.3 for fiscal year 1962.

   On the other services we still have the problem of moving furniture; maintaining a supply of children's clothing and linen items; searching for cribs, youth beds, and bassinets when children are admitted because of the lack of central storage for these items; trying to keep an adequate supply of drug items in children's doses in an inadequately sized medicine cabinet. Play and recreation areas for children are limited except off the nursing units. This involves staff time in taking children off the unit and frequently in attending them while they are off the unit.

3. There is still a lack of office, conference, and storage space. The most acute needs are for storage space for essential equipment used in patient care, and for conference space.

4. There is still a lack of waiting space for patients coming to the clinics which are held in the south wing of the Admissions and Followup Department. Even with some adjustment in the clinic schedule, this problem remains unsolved.

5. The practice of placing three patients in a 2-bed room continues to create problems not only for the nursing staff but also for the housekeeping staff. It is almost impossible to maintain a satisfactory standard of cleanliness and order under these crowded conditions. It is hoped that this kind of patient assignment will be limited to 11 East and the virus study project, and will be discontinued at the completion of this project.

6. There has been an increasing demand for nursing services by the Diagnostic X-ray Department and the Cardiac Catheterization Laboratory. As many as five or six nurses from the operating rooms have been needed for these two services on a single day. In addition, a considerable amount of overtime has had to be provided because of procedures being started late in the afternoon. It would be helpful if adequate advance notice of schedule changes could be given to the nursing staff, both in these areas and in the operating rooms.

7. The loss of the utility room on 2 B and the training space on the Inhalation Therapy Service has made it most difficult to provide the training for nonprofessional personnel in cleaning and sterilizing procedures, and for all personnel in the use of inhalation therapy equipment of all kinds. Special arrangements must be made on the nursing units for each group, and these arrangements depend on the Service needs by the regular staff on the units, as well as the availability of a patient's room in which the demonstrations can be given. Such arrangements also involve the movement of a great deal of equipment each time the training is given.

8. Absenteeism is a continuing problem for which there seems to be no readily available solution. Because patients must be cared for 24 hours a day, it is essential that the necessary personnel report for work regularly and promptly. More stringent regulations on unauthorized absences might be helpful in this situation.

ACCOMPLISHMENTS

1. Publications

   (a) Ramacciotti, Nina: How Narcotics are Delivered to the Nursing Units. Trading Post Section, Amer. J. Nurs. 5: 72, 1962.

(b) Tansley, Doris: The Young Wife with Choriocarcinoma. Monograph 4, Technical Innovations in Health Care: Nursing Implications, 17, 1962. New York, American Nurses' Association, 1962, 40 pp.

(c) Wilcox, Jane: Observer Factors in the Measurement of Blood Pressure. J.A.M.A. 179: 53-54, 1962.

(d) Wilcox, Jane: Adventuring With Television. Nurs. Outlook 10: 527-529, 1962.

(e) Wilcox, Jane, Assoc. Ed.: Pointers on Measuring Blood Pressure. RN 25: 70-80, 1962.

2. Other

(a) Medical Asepsis. Television film prepared and produced by Jane Wilcox, Josephine I. O'Connor, and Marion Keagle.

(b) Measurement of Blood Pressure. Programmed instruction notebook prepared by Jane Wilcox for use in training practical nurses.

PLANS FOR 1963

1. To continue our efforts to improve in the various areas of our program goals.

2. To see if it is possible to improve the utilization of staff members by doing three pilot projects:

(a) A central escort and messenger service.

(b) A "utility aide" to perform nursing housekeeping function on the nursing unit.

(c) Administrative clerks for the head nurse on specified nursing units and for the chief on specified nursing services to determine which pattern may be the most effective.

3. To see whether it is possible to set quotas or standards for (a) drugs, (b) linen, (c) central sterile supplies, and (d) stockroom supplies. If this seems to be feasible, to try to arrange for the stocking of drugs and central sterile supplies daily by the Pharmacy and Central Sterile Supply Services.

4. To write performance requirements for the professional nursing staff.

Serial No. CC-51

PHS - NIH
Individual Project Report
Calendar Year 1962

Part A

Project Title:

A Descriptive Study of the Nurse Returning to Employment at the Clinical Center After a Period of Inactivity.

Principal Investigator:

Dr. Jane Wilcox

Other Investigators:

None

Cooperating Units:

Nursing Education and Training Program, CC
Cancer Nursing Service, CC

Man Years (calendar year 1962):

| | |
|---|---|
| Total: | .10 man years |
| Professional: | .10 man years |
| Other: | 0 man years |

Project Description:

a. Objectives

(1) To describe the knowledge and understanding needed to work at the Clinical Center by a professional nurse who has been inactive in nursing for more than ten years.

(2) To describe effective and ineffective means of providing this knowledge and understanding.

b. Methods Employed

(1) Observation and interview of nurse returning to employment at the Clinical Center after a period of inactivity.

(2) Diary records of experience kept by the nurse after her return to nursing duty.

(3) Interviews with instructors and nursing unit staff responsible for orientation of the nurse.

c. Major Findings

(1) The nurse studied is thought to have made an unusually effective return to work; possible reasons for this are being analyzed.

(2) The nurse studied found individualized instruction to be more effective than a formal refresher course.

(3) Specific changes in nursing practice requiring re-orientation of the nurse have been noted.

(4) Problems in the assignment of part-time staff were apparent.

d. Significance

The final report of the findings will be useful in planning for the employment of other nurses returning to nursing duties after periods of inactivity.

e. Proposed Course of Project

Final analysis of findings and preparation of report are in progress.

Part B

Not included.

Serial No. CC-51

PHS - NIH
Individual Project Report
Calendar Year 1962

Part A

Project Title:

A Preliminary Investigation of the Applicability of Programmed Instruction in In-Service Education in Nursing.

Principal Investigator:

Dr. Jane Wilcox

Other Investigators:

None

Cooperating Units:

Nursing Education and Training Program, CC

Man Years (calendar year 1962):

| | |
|---|---|
| Total: | .45 man years |
| Professional: | .25 man years |
| Other: | .20 man years |

Project Description:

a. Objectives

(1) To improve the quality of in-service instruction in the Clinical Center Nursing Department.

(2) To explore the usefulness of Programmed Instruction in the light of the specific characteristics of in-service education in nursing.

(3) To experiment with a possible means of introducing nursing research findings into nursing practice.

(4) To stimulate the interest of the staff of the Clinical Center Nursing Department in experimenting with new methods and materials for teaching.

b. Methods Employed

(1) A unit of an advanced course for practical nurses given annually in the Nursing Department was selected for the first trial.

(2) A content area which has been the subject of a nursing research project was selected for the first trial.

c. Major Findings

(1) An instructor who knows very thoroughly the content area to be taught and the basic principles of teaching can learn how to program the subject matter with very little guidance other than published materials on Programmed Instruction.

(2) Findings of others that procedures and problem-solving concepts can be effectively taught by Programmed Instruction are confirmed.

(3) The incorporation of the use of Programmed Instruction in the in-service education program of the Clinical Center Nursing Department would be both feasible and worthwhile.

d. Proposed Course of Project

Analysis of results of the initial experiment is not yet completed. Following the completion of the report of this experiment, the possibilities for further experiments in collaboration with others will be considered.

Part B

Not included.

PHS - NIH
Individual Project Report
Calendar Year 1962

Part A

Project Title:

An Exploration of the Use of Closed-Circuit Television in In-Service Education in Nursing.

Principal Investigator:

Dr. Jane Wilcox

Other Investigators:

Miss Florence Seidler

Cooperating Units:

Clinical and Professional Education Branch, CC
Cancer Nursing Service, CC
Allergy and Infectious Diseases Nursing Service, CC

Man Years (calendar year 1962):

| | |
|---|---|
| Total: | .60 man years |
| Professional: | .40 man years |
| Other: | .20 man years |

Project Description:

a. Objectives

(1) To improve the quality of in-service instruction in the Clinical Center Nursing Department.

(2) To explore various methods of using closed-circuit television in in-service education activities in nursing.

(3) To stimulate the interest of the staff of the Clinical Center Nursing Department in experimenting with new methods and materials for teaching.

b. Methods Employed

(1) As opportunities to do so have arisen, the nursing research staff have worked with others in the Department in order to study the use of television in ongoing in-service education activities.

(2) Some exploration has been undertaken of possible uses of television to increase effectiveness of instruction, with a view to further trials as time and circumstances permit.

(3) Preparation of instructional materials to be presented via television, based on findings of previous research, is in progress.

c. Major Findings

(1) There are numerous instructional activities in the Clinical Center Nursing Department where quality of teaching can be enhanced by use of closed-circuit television.

(2) Considerable interpretation and exploration by the nursing research staff is necessary for other Nursing Department staff to understand and appreciate the possible applications of closed-circuit television in in-service education; lack of this understanding hampers expansion of this activity.

d. Proposed Course of Project

Further study and experimentation will be continued, utilizing opportunities and occasions that present themselves. Time does not permit the extensive work with this project that would be necessary for broad scale study and evaluation.

Part B

Publications from this project:

Wilcox, Jane: Adventuring With Television. Nurs. Outlook 10: 527-529, 1962.

PHS - NIH
Individual Project Report
Calendar Year 1962

Part A

Project Title:

The Life Situation of the Metabolic Research Patient

Principal Investigator:

Dr. Jane Wilcox

Other Investigators:

Miss Florence Seidler

Cooperating Units:

Surgery Branch, National Cancer Institute
Cancer Nursing Service, CC

Man Years (calendar year 1962):

| | |
|---|---|
| Total: | .40 man years |
| Professional: | .30 man years |
| Other: | .10 man years |

Project Description:

a. Objectives

(1) To gain an understanding of the experiences encountered by patients participating in metabolic balance studies, as a basis for planning effective nursing care measures.

(2) To observe and describe the part played by nursing personnel in the life situation of the metabolic research patient.

(3) To develop hypotheses for experimental studies of nursing action in the care of metabolic research patients.

b. Methods Employed

(1) A series of patients participating in pre-operative metabolic balance studies are being observed in a patient room by means of closed-circuit television by two nurse-observers.

(2) Conferences and group discussions with the nursing staff caring for these patients furnish information as to the staff's perception of the life situation of the patient and of the part played by the nursing staff in this situation.

c. Major Findings

Data collection is incomplete at this time. There is evidence that the objectives of the study will be accomplished.

d. Proposed Course of Project

The metabolic studies are to be completed by March 1, 1963. Observations will be continued throughout this time.

Part B

Not included.

PHS - NIH

Individual Project Report
Calendar Year 1962

Part A

Project Title:

A Study of the Use of Closed-Circuit Television as a Tool for making Observations in Studies of Nursing Care.

Principal Investigator:

Dr. Jane Wilcox

Other Investigators:

Miss Florence Seidler

Cooperating Units:

Clinical and Professional Education Branch, CC
Cancer Nursing Service, CC
Clinical Director and other clinical investigators, NCI

Man Years (calendar year 1962):

| | |
|---|---|
| Total: | .80 man years |
| Professional: | .55 man years |
| Other: | .25 man years |

Project Description:

a. Objectives

(1) To explore the use of direct observation via closed-circuit television as a means of studying nursing care while it is being given.

(2) To study the problems involved in this use of television and to determine what data can be collected.

b. Methods Employed

(1) A patient room on a nursing unit of the National Cancer Institute has been made available as the locale for

closed-circuit television observation of nursing care given to patients.

(2) With the advice and technical assistance of the Clinical and Professional Education Branch, CC, various types of closed-circuit television equipment are being tried and evaluated.

c. Major Findings

(1) Monitoring of a patient's room by means of closed-circuit television offers a very useful means of direct observation of patient care in its natural setting.

(2) Patients, as well as medical and nursing staff, accept very well direct observation of activities by closed-circuit television when they are carefully prepared for the experience.

(3) The technical problems involved in this use of closed-circuit television equipment are being defined.

(4) The extent and limitations of the data provided by this tool for observation are gradually being delineated.

d. Significance

(1) The development of an effective method for direct observation of nursing care at the bedside is already making feasible studies of nursing care; such a study of nursing care is now proceeding concurrently with the continuing investigation of the method of observation.

(2) Our evaluation of this method will be useful to others wishing to undertake studies of direct nursing care; inquiries to date indicate great need for valid information in this area.

e. Proposed Course of Project

(1) A major part of the work on this project has been completed; further experimentation will continue concurrently with an ongoing investigation of nursing care, utilizing closed-circuit television as a means of observation.

(2) Certain additional modifications in camera controls and the use of sound tape recordings and video tape recordings are still to be explored.

(3) Several papers on various aspects of the project will be prepared for publication.

Part B

Publications from this project:

Wilcox, Jane: Adventuring with Television, Nurs. Outlook 10: 527-529, 1962.

NURSING DEPARTMENT
ACCESSIONS BY GRADE EACH MONTH
JULY 1, 1961 - JUNE 30, 1962

| Month | GS-11 and above | Head Nurse GS-9 | Staff Nurse GS-7 | Staff Nurse GS-5 and GS-6 | Secretary GS-4 and above | Unit Clerk GS-3 and GS-4 | Practical Nurse GS-3 | Nursing Assistant GS-2 | Total |
|---|---|---|---|---|---|---|---|---|---|
| 1961 | | | | | | | | | |
| July | 0 | 0 | 0 | 9 | 0 | 1 | 3 | 0 | 13 |
| Aug. | 0 | 1 | 0 | 6 | 2 | 1 | 2 | 4 | 16 |
| Sept. | 0 | 1 | 1 | 17 | 0 | 7 | 2 | 9 | 37 |
| Oct. | 0 | 0 | 4 | 11 | 0 | 0 | 3 | 2 | 20 |
| Nov. | 0 | 1 | 1 | 16 | 0 | 5 | 0 | 8 | 31 |
| Dec. | 0 | 0 | 1 | 6 | 0 | 0 | 2 | 0 | 9 |
| 1962 | | | | | | | | | |
| Jan. | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 10 | 14 |
| Feb. | 1 | 0 | 1 | 6 | 0 | 1 | 1 | 4 | 14 |
| Mar. | 0 | 0 | 1 | 2 | 0 | 3 | 0 | 5 | 11 |
| Apr. | 0 | 0 | 0 | 3 | 0 | 3 | 0 | 3 | 9 |
| May | 0 | 0 | 0 | 6 | 0 | 2 | 2 | 6 | 16 |
| June | 2 | 0 | 1 | 4 | 0 | 5 | 0 | 9 | 21 |
| Total | 3 | 3 | 11 | 87 | 2 | 29 | 16 | 60 | 211 |

NURSING DEPARTMENT
SEPARATIONS BY GRADE EACH MONTH
JULY 1, 1961 - JUNE 30, 1962

| Month | GS-11 and above | Head Nurse GS-9 | Staff Nurse GS-7 | Staff Nurse GS-5 and GS-6 | Secretary GS-4 and above | Unit Clerk GS-3 and GS-4 | Practical Nurse GS-3 and GS-4 | Nursing Assistant GS-2 and GS-3 | Total |
|---|---|---|---|---|---|---|---|---|---|
| 1961 | | | | | | | | | |
| July | 1 | 0 | 6 | 6 | 1 | 0 | 2 | 1 | 17 |
| Aug. | 0 | 1 | 8 | 10 | 0 | 3 | 0 | 5 | 27 |
| Sept. | 0 | 0 | 5 | 7 | 0 | 1 | 0 | 8 | 21 |
| Oct. | 0 | 1 | 2 | 7 | 0 | 3 | 4 | 8 | 25 |
| Nov. | 0 | 1 | 2 | 6 | 0 | 1 | 1 | 6 | 17 |
| Dec. | 0 | 0 | 1 | 8 | 1 | 0 | 0 | 3 | 13 |
| 1962 | | | | | | | | | |
| Jan. | 0 | 0 | 0 | 4 | 0 | 3 | 1 | 5 | 13 |
| Feb. | 1 | 0 | 3 | 3 | 0 | 3 | 0 | 7 | 17 |
| March | 0 | 1 | 0 | 1 | 1 | 4 | 0 | 8 | 15 |
| Apr. | 0 | 0 | 1 | 5 | 0 | 2 | 0 | 7 | 15 |
| May | 1 | 1 | 2 | 9 | 0 | 0 | 1 | 3 | 17 |
| June | 0 | 2 | 4 | 18 | 1 | 1 | 3 | 2 | 31 |
| Total | 3 | 7 | 34 | 84 | 4 | 21 | 12 | 63 | 228 |

NURSING DEPARTMENT
NUMBER OF HOURS OF OVERTIME BY SERVICE
JULY 1, 1961 - JUNE 30, 1962

| Month | Admissions and Followup | Allergy and Infectious Diseases | Arthritis and Metabolic Diseases | Cancer | Heart | Neurology | Psychiatry | Surgical | Total |
|---|---|---|---|---|---|---|---|---|---|
| 1961 | | | | | | | | | |
| July | 26 1/4 | 3 | 62 1/2 | 35 | 63 | 0 | 87 | 69 1/2 | 346 1/4 |
| Aug. | 5 | 65 1/2 | 63 1/2 | 64 | 22 1/4 | 0 | 57 | 68 1/4 | 345 1/2 |
| Sept. | 29 3/4 | 23 1/2 | 18 | 96 | 8 | 8 | 64 | 80 | 327 1/4 |
| Oct. | 10 1/4 | 10 3/4 | 17 1/2 | 135 | 19 | 68 1/4 | 159 | 46 | 465 3/4 |
| Nov. | 6 1/4 | 1 | 4 1/4 | 103 | 5 | 0 | 57 1/2 | 44 | 221 |
| Dec. | 16 3/4 | 1 | 48 | 42 | 0 | 0 | 86 | 31 1/4 | 225 |
| 1962 | | | | | | | | | |
| Jan. | 39 3/4 | 3 | 19 | 51 | 6 | 0 | 211 | 71 1/4 | 401 |
| Feb. | 32 1/4 | 10 1/2 | 28 | 87 | 7 3/4 | 4 | 174 1/2 | 76 1/4 | 420 1/4 |
| Mar. | 31 1/4 | 4 | 32 | 82 | 23 1/4 | 2 | 93 | 61 1/4 | 328 3/4 |
| Apr. | 30 1/2 | 0 | 7 | 87 1/2 | 7 3/4 | 0 | 226 1/2 | 32 1/4 | 391 1/2 |
| May | 29 1/4 | 0 | 23 3/4 | 119 1/2 | 16 3/4 | 0 | 84 1/4 | 96 | 369 1/2 |
| June | 51 3/4 | 0 | 25 | 130 1/2 | 22 1/2 | 0 | 132 3/4 | 129 1/2 | 492 |
| Total | 309 | 122 1/4 | 348 1/2 | 1032 1/2 | 201 1/4 | 82 1/4 | 1432 1/2 | 805 1/2 | 4333 3/4 * |

* Equivalent to:
541.7 8-hour days
108.4 40-hour weeks
2.08 man years

NURSING DEPARTMENT
NUMBER OF HOURS OF CONTINUOUS NURSING CARE
PROVIDED BY EACH NURSING SERVICE
JULY 1, 1961 - JUNE 30, 1962

| Month | Allergy and Infectious Diseases | Arthritis and Metabolic Diseases | Cancer | Heart | Neurology | Psychiatry | Total |
|---|---|---|---|---|---|---|---|
| 1961 | | | | | | | |
| July | 297 1/2 | 328 | 324 1/2 | 2,850 | 360 1/2 | 4 | 4,164 1/2 |
| Aug. | 261 1/2 | 20 | 367 1/2 | 1,003 | 1,218 | 204 | 3,074 |
| Sept. | 513 1/4 | 328 | 487 | 1,179 1/2 | 1,068 | 117 | 3,692 3/4 |
| Oct. | 655 | 4 | 756 | 1,763 3/4 | 1,268 | 678 1/2 | 5,125 1/4 |
| Nov. | 337 1/2 | 0 | 821 | 2,179 1/2 | 458 | 394 1/2 | 4,190 1/2 |
| Dec. | 504 | 58 | 840 | 1,653 1/4 | 385 | 160 1/2 | 3,600 3/4 |
| 1962 | | | | | | | |
| Jan. | 268 | 0 | 829 | 2,048 | 307 | 702 1/4 | 4,154 1/4 |
| Feb. | 291 1/2 | 87 | 474 1/2 | 1,499 | 520 1/2 | 863 3/4 | 3,736 1/4 |
| Mar. | 278 1/2 | 692 1/2 | 1,096 | 1,714 1/4 | 517 | 681 | 4,979 1/4 |
| Apr. | 17 | 252 | 993 | 2,095 1/2 | 424 | 681 1/2 | 4,463 |
| May | 470 1/2 | 67 | 599 | 1,364 1/2 | 228 | 949 1/2 | 3,678 1/2 |
| June | 544 | 24 | 874 1/2 | 1,774 1/2 | 207 | 279 | 3,703 |
| Total | 4,438 1/4 | 1,860 1/2 | 8,462 | 21,124 3/4 | 6,961 | 5,715 1/2 | 48,562 * |

* Equivalent to 6,070.25 8-hour days
1,214.05 40-hour weeks
23.35 man years.

NUMBER HOURS WORKED BY PART-TIME PROFESSIONAL
NURSING STAFF (W.A.E.) BY SERVICE
FISCAL YEAR 1962

| Month | Nursing Service | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Admissions and Followup | Allergy and Infectious Diseases | Arthritis and Metabolic Diseases | Cancer | Heart | Neurology | Psychiatry | Orientation | Total |
| 1961 | Hours | Hours | Hours | Hours | Hours | Hours | Hours | Hrs. | Hours |
| July | 136 | 8 | 559 | 384 | 729 | 16 | 88 | 0 | 1,920 |
| Aug. | 24 | 32 | 194 | 903 | 607 | 56 | 112 | 0 | 1,928 |
| Sept. | 128 | 32 | 64 | 1,364 | 280 | 216 | 78 1/2 | 0 | 2,162 1/2 |
| Oct. | 139 | 50 | 176 | 1,541 | 364 | 244 | 120 | 0 | 2,634 |
| Nov. | 136 | 96 | 240 | 1,283 | 552 | 112 | 104 | 48 | 2,571 |
| Dec. | 112 | 50 | 258 | 1,264 | 272 | 112 | 128 | 48 | 2,244 |
| 1962 | | | | | | | | | |
| Jan. | 136 | 64 | 416 | 1,524 1/2 | 562 1/2 | 52 | 191 1/2 | 32 | 2,978 1/2 |
| Feb. | 128 | 31 | 476 | 1,216 | 707 | 204 | 158 | 112 | 3,032 |
| Mar. | 102 | 32 | 864 | 1,280 | 710 | 168 | 160 | 16 | 3,332 |
| Apr. | 56 | 56 | 512 | 1,031 1/2 | 1,083 1/2 | 136 | 136 | 8 | 3,019 |
| May | 134 | 48 | 363 1/4 | 1,268 | 984 3/4 | 163 | 190 1/2 | 22 | 3,173 1/2 |
| June | 86 3/4 | 48 3/4 | 116 1/4 | 928 1/2 | 1,108 | 111 1/4 | 176 | 0 | 2,575 1/2 |
| Total | 1,317 3/4 | 547 3/4 | 4,238 1/2 | 13,987 1/2 | 7,959 3/4 | 1,590 1/4 | 1,642 1/2 | 286 | 31,570 * |

* Equivalent to 3,946.25 work days
788.65 work weeks
15.77 man years

NUMBER OF HOURS OF LEAVE TAKEN
IN NURSING DEPARTMENT
FISCAL YEAR 1962

| | Professional staff | Nonprofessional staff | Clerical staff | Total staff |
|---|---|---|---|---|
| Daily average number personnel | 296.2 | 246.8 | 43.75 | 586.7 |
| Annual Leave | | | | |
| Total hours taken | 36,104 | 31,082 | 5,049 | 72,235 |
| Average number hours per person | 121.8 | 125.9 | 115.5 | 123.1 |
| Average number working days per person | 15.2 | 15.7 | 14.4 | 15.4 |
| Sick Leave | | | | |
| Total hours taken | 19,158 | 19,874 | 3,097 | 42,129 |
| Average number hours per person | 64.7 | 80.5 | 71.0 | 71.8 |
| Average number working days per person | 8.1 | 10.1 | 8.9 | 8.9 |
| Other Leave | | | | |
| Total hours taken | 13,024 1/2 | 13,017 1/2 | 737 1/2 | 26,779 1/2 |
| Average number hours per person | 43.9 | 52.7 | 16.8 | 37.8 |
| Average number working days per person | 5.5 | 6.6 | 2.1 | 4.7 |
| Total hours of all leave | 68,286 1/2 | 63,973 1/2 | 8,883 1/2 | 141,143 1/2 |
| Average number hours per person | 230.5 | 258.8 | 203.1 | 240.5 |
| Average number working days per person | 28.8 | 32.3 | 25.4 | 30.06 |

DAILY AVERAGE PEDIATRIC CENSUS BY AGE GROUPS
EACH MONTH, FISCAL YEAR 1962

| Month | Under 2 years of age | 2 - 5 years of age | 6 - 13 years of age | 14 - 16 years of age | Total |
|---|---|---|---|---|---|
| 1961 | | | | | |
| July | 8.93 | 17.74 | 38.90 | 6.68 | 72.20 |
| Aug. | 7.45 | 23.45 | 37.03 | 9.84 | 77.77 |
| Sept. | 6.70 | 22.17 | 20.77 | 8.46 | 58.10 |
| Oct. | 7.84 | 18.68 | 20.61 | 6.84 | 53.97 |
| Nov. | 8.50 | 18.77 | 25.43 | 9.30 | 62.00 |
| Dec. | 7.51 | 14.71 | 24.90 | 7.13 | 54.90 |
| 1962 | | | | | |
| Jan. | 8.23 | 16.00 | 27.87 | 6.68 | 58.80 |
| Feb. | 9.38 | 16.32 | 29.35 | 11.47 | 66.60 |
| Mar. | 13.55 | 17.06 | 24.64 | 8.42 | 63.70 |
| Apr. | 9.17 | 21.57 | 26.40 | 8.16 | 65.30 |
| May | 7.61 | 21.68 | 25.58 | 11.45 | 66.30 |
| June | 9.03 | 21.50 | 27.10 | 16.40 | 74.00 |
| Yearly average | 8.67 | 19.20 | 27.40 | 9.20 | 64.50 |
| Percent of total | 13.40 | 29.80 | 42.50 | 14.30 | 100.00 |

DAILY AVERAGE CENSUS OF CHILDREN
ON EACH NURSING SERVICE EACH MONTH
FISCAL YEAR 1962

| Month | Nursing Service | | | | | | |
|---|---|---|---|---|---|---|---|
| | Allergy and Infectious Diseases | Arthritis and Metabolic Diseases | Cancer | Heart | Neurology | Psychiatry | Total |
| 1961 | | | | | | | |
| July | 6.00 | 21.74 | 20.00 | 11.94 | 12.51 | 0.00 | 72.20 |
| Aug. | 7.09 | 21.45 | 24.03 | 8.90 | 16.30 | .00 | 77.77 |
| Sept. | 5.36 | 10.10 | 24.26 | 8.43 | 9.93 | .00 | 58.10 |
| Oct. | 5.00 | 10.42 | 18.29 | 10.19 | 9.52 | .55 | 53.97 |
| Nov. | 3.87 | 9.73 | 19.97 | 10.47 | 16.97 | 1.00 | 62.00 |
| Dec. | 3.84 | 8.77 | 19.50 | 7.00 | 14.77 | 1.00 | 54.90 |
| 1962 | | | | | | | |
| Jan. | 3.48 | 7.90 | 20.74 | 11.42 | 14.23 | 1.00 | 58.80 |
| Feb. | 4.25 | 7.82 | 22.53 | 14.93 | 15.31 | 1.75 | 66.60 |
| Mar. | 5.68 | 9.51 | 19.35 | 9.29 | 18.23 | 1.29 | 63.71 |
| Apr. | 2.63 | 11.34 | 23.37 | 13.73 | 13.00 | 1.20 | 65.30 |
| May | 3.42 | 13.26 | 24.80 | 13.42 | 9.42 | 1.00 | 66.30 |
| June | 6.90 | 11.80 | 23.90 | 16.60 | 12.60 | 2.00 | 74.00 |
| Yearly average | 4.80 | 12.04 | 21.70 | 11.40 | 13.60 | .70 | 64.50 |
| Percent of total | 7.40 | 18.80 | 33.70 | 17.70 | 21.20 | 1.10 | 99.90 |

NURSING DEPARTMENT
PEDIATRIC CENSUS
FISCAL YEAR 1962

Daily average census

| | |
|---|---|
| Under 16 years of age | 64.50 |
| Under 14 years of age | 55.30 |
| Under 6 years of age | 27.30 |
| Under 2 years of age | 8.67 |
| 2 to 5 years of age | 19.20 |
| 6 to 13 years of age | 27.40 |
| 14 to 16 years of age | 9.20 |

Daily average census on each Nursing Service

| | |
|---|---|
| Allergy and Infectious Diseases | 4.80 |
| Arthritis and Metabolic Diseases | 12.04 |
| Cancer | 21.70 |
| Heart | 11.40 |
| Neurology | 13.60 |
| Psychiatry | .70 |

NURSING DEPARTMENT
ACCESSIONS AND SEPARATIONS
BY GRADE, ANNUALLY
1956-1961, INCLUSIVE

| Position | Accessions | | | | | | Separations | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1956 | 1957 | 1958 | 1959 | 1960 | 1961 | 1956 | 1957 | 1958 | 1959 | 1960 | 1961 |
| Supervisor GS-11 and above | 4 | 2 | 0 | 0 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 2 |
| Head Nurse GS-9 | 7 | 4 | 4 | 2 | 2 | 3 | 1 | 9 | 11 | 4 | 5 | 4 |
| Staff Nurse GS-7 | 23 | 19 | 13 | 11 | 13 | 8 | 15 | 28 | 40 | 28 | 16 | 37 |
| Staff Nurses GS-5 and -6 | 121 | 138 | 98 | 111 | 97 | 102 | 73 | 84 | 96 | 88 | 61 | 86 |
| Clerical GS-2, -3, and -4 | 18 | 13 | 19 | 24 | 25 | 25 | 13 | 12 | 19 | 22 | 23 | 20 |
| Practical Nurse GS-3 | 28 | 20 | 29 | 31 | 22 | 27 | 11 | 5 | 10 | 7 | 11 | 17 |
| Nursing Assistant GS-2 and -3 | 52 | 44 | 52 | 34 | 21 | 50 | 35 | 23 | 43 | 40 | 23 | 52 |
| Total | 253 | 240 | 215 | 213 | 181 | 216 | 151 | 162 | 220 | 190 | 140 | 218 |

NURSING DEPARTMENT
ACCESSIONS AND SEPARATIONS
BY MONTH 1956-1961, INCLUSIVE

| | Accessions | | | | | | Separations | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Month | 1956 | 1957 | 1958 | 1959 | 1960 | 1961 | 1956 | 1957 | 1958 | 1959 | 1960 | 1961 |
| Jan. | 27 | 18 | 11 | 16 | 19 | 14 | 12 | 13 | 13 | 12 | 15 | 15 |
| Feb. | 18 | 24 | 12 | 7 | 11 | 16 | 5 | 8 | 16 | 10 | 15 | 12 |
| March | 12 | 12 | 12 | 21 | 6 | 13 | 9 | 16 | 15 | 11 | 7 | 18 |
| Apr. | 19 | 19 | 15 | 9 | 10 | 7 | 12 | 11 | 15 | 12 | 8 | 17 |
| May | 18 | 14 | 13 | 5 | 10 | 17 | 19 | 17 | 20 | 28 | 10 | 18 |
| June | 29 | 24 | 13 | 30 | 16 | 23 | 17 | 18 | 22 | 17 | 11 | 18 |
| July | 24 | 26 | 14 | 14 | 15 | 13 | 12 | 10 | 14 | 14 | 11 | 17 |
| Aug. | 15 | 8 | 13 | 21 | 16 | 16 | 12 | 14 | 29 | 23 | 16 | 27 |
| Sept. | 29 | 39 | 50 | 35 | 42 | 37 | 19 | 15 | 29 | 26 | 24 | 21 |
| Oct. | 37 | 28 | 28 | 25 | 19 | 20 | 9 | 14 | 19 | 11 | 7 | 25 |
| Nov. | 14 | 13 | 21 | 22 | 9 | 31 | 8 | 14 | 11 | 14 | 6 | 17 |
| Dec. | 11 | 15 | 13 | 8 | 8 | 9 | 17 | 12 | 17 | 12 | 10 | 13 |
| Total | 253 | 240 | 215 | 213 | 181 | 216 | 151 | 162 | 220 | 190 | 140 | 218 |

NURSING DEPARTMENT
NUMBER OF HOURS OF CONTINUOUS NURSING CARE
BY NURSING SERVICE
1958 - 1961

| Nursing Service | Number of Hours | | | |
|---|---|---|---|---|
| | 1958 | 1959 | 1960 | 1961 |
| | Hours | Hours | Hours | Hours |
| Allergy and Infectious Dis.--- | 3,381 | 6,095 | 4,878 1/2 | 5,414 3/4 |
| Arthritis and Metabolic Dis.-- | 4,745 | 2,575 1/4 | 3,109 1/2 | 1,631 1/4 |
| Cancer---------- | 6,104 | 11,968 1/4 | 14,625 1/4 | 9,381 |
| Heart---------- | 22,234 | 32,154 3/4 | 26,384 3/4 | 20,781 1/2 |
| Neurology---------- | 11,723 | 6,105 | 10,163 | 8,423 1/2 |
| Psychiatric---------- | 2,658 1/4 | 3,101 | 2,141 1/2 | 2,002 3/4 |
| Total---------- | 50,845 1/4 | 61,999 1/4 | 61,302 1/2 | 47,634 3/4 |

NURSING DEPARTMENT
NUMBER OF HOURS OF OVERTIME WORK
BY NURSING SERVICE
1958 - 1961

| Nursing Service | Number of Hours | | | |
|---|---|---|---|---|
| | 1958 | 1959 | 1960 | 1961 |
| | Hours | Hours | Hours | Hours |
| Admissions and Followup---- | 211 1/2 | 307 1/4 | 373 3/4 | 222 1/2 |
| Allergy and Infectious Diseases---------- | 142 | 958 1/2 | 355 3/4 | 191 |
| Arthritis and Metabolic Diseases---------- | 576 1/2 | 1,460 1/2 | 1,765 1/2 | 690 1/2 |
| Cancer---------- | 746 1/2 | 1,211 1/4 | 1,583 1/4 | 777 3/4 |
| Heart---------- | 199 1/2 | 700 1/4 | 356 1/4 | 245 1/2 |
| Neurology---------- | 186 | 100 | 173 1/2 | 76 1/4 |
| Psychiatric---------- | 2,802 | 1,498 1/2 | 797 1/2 | 766 |
| Surgical---------- | 579 | 700 | 738 3/4 | 610 1/4 |
| Total---------- | 5,443 | 6,936 1/4 | 6,144 1/4 | 3,579 3/4 |

NURSING DEPARTMENT
NUMBER OF HOURS WORKED BY PART-TIME
PROFESSIONAL NURSES ON EACH NURSING SERVICE
1958-1961

| Nursing Service | Number of hours | | | |
|---|---|---|---|---|
| | 1958 | 1959 | 1960 | 1961 |
| | Hours | Hours | Hours | Hours |
| Admissions and Followup----- | - | - | 213 | 1,436 |
| Allergy and Infectious Dis.- | 432 | 3,430 1/2 | 2,078 1/4 | 762 |
| Arthritis and Metabolic Dis. | 1,940 | 6,768 1/4 | 9,894 1/4 | 6,056 1/6 |
| Cancer---------- | 5,589 3/4 | 9,325 | 16,371 1/4 | 12,209 |
| Heart---------- | 1,607 1/2 | 8,073 1/2 | 10,989 | 5,892 |
| Neurology---------- | 3,770 | 6,344 1/2 | 3,855 3/4 | 868 |
| Psychiatric---------- | 2,778 1/2 | 3,841 | 3,154 1/2 | 1,482 1/2 |
| Surgical---------- | - | - | 40 | - |
| Education and Training------ | - | - | - | 96 |
| Total---------- | 16,117 3/4 | 37,782 3/4 | 46,596 | 28,810 2/3 |

NURSING DEPARTMENT
DAILY AVERAGE PEDIATRIC CENSUS
BY AGE GROUPS
JULY 1, 1959 - JUNE 30, 1962

| Age group | Daily Average Census | | | | | |
|---|---|---|---|---|---|---|
| | 7/1/59 through 12/31/59 | 1/1/60 through 6/30/60 | 7/1/60 through 12/31/60 | 1/1/61 through 6/30/61 | 7/1/61 through 12/31/61 | 1/1/62 through 6/30/62 |
| Under 2 years | 5.06 | 7.6 | 12.8 | 11.2 | 7.8 | 8.67 |
| 2-5 years | 17.0 | 14.7 | 22.3 | 21.18 | 19.3 | 19.2 |
| 6-13 years | 28.6 | 30.09 | 31.6 | 24.94 | 28.0 | 27.4 |
| 14-16 years | 11.9 | 7.4 | 5.4 | 12.0 | 8.0 | 9.2 |
| Total | 62.5 | 59.8 | 72.2 | 69.4 | 63.0 | 64.5 |
| Under 6 years | 22.0 | 22.3 | 34.9 | 32.4 | 26.7 | 27.3 |
| Under 14 years | 50.7 | 51.8 | 66.9 | 57.4 | 55.2 | 55.3 |

NURSING DEPARTMENT
DAILY AVERAGE PEDIATRIC CENSUS
BY NURSING SERVICE
JULY 1, 1959 - JUNE 30, 1962

| Nursing Service | Daily Average Census | | | | | |
|---|---|---|---|---|---|---|
| | 7/1/59 through 12/31/59 | 1/1/60 through 6/30/60 | 7/1/60 through 12/31/60 | 1/1/61 through 6/30/61 | 7/1/61 through 12/31/61 | 1/1/62 through 6/30/62 |
| Arthritis and Metabolic Diseases----- | 8.0 | 9.4 | 14.5 | 15.9 | 13.7 | 12.4 |
| Allergy and Infectious Diseases----- | 9.0 | 8.5 | 7.8 | 10.1 | 5.2 | 4.8 |
| Cancer--------- | 18.0 | 16.9 | 20.5 | 18.9 | 21.0 | 21.7 |
| Heart---------- | 15.6 | 11.3 | 14.1 | 12.4 | 9.5 | 11.4 |
| Neurology------ | 11.0 | 14.8 | 15.2 | 11.8 | 13.3 | 13.6 |
| Psychiatry----- | .96 | .0 | .0 | .0 | .4 | .7 |
| Total | 62.5 | 59.7 | 72.1 | 69.4 | 63.0 | 64.4 |

Calendar Year 1962

PUBLIC HEALTH SERVICE NATIONAL INSTITUTES OF HEALTH

SUMMARY ANNUAL REPORT OF PROGRAM ACTIVITIES
CLINICAL CENTER

NUTRITION DEPARTMENT

CC-61
Serial No.

I. CONTRIBUTIONS TO THE CLINICAL RESEARCH PROGRAM

In addition to spanning the broad range of hospital prestige from hierarchy and laboratory studies of nutrition to potato peelers and potwashing, credited to most dietary departments of large hospitals, the Nutrition Department, Clinical Center, provides services for assisting and supporting research studies. The majority of such research services provided in 1962 fell into four groups, examples of which are shown.

1. Facilitating research studies of a diagnostic nature.

a. Histidinemia, a disease caused by an unknown defect in metabolism was detected at NIH within the last year. Later, the unknown defect was identified as the absence of the enzyme histidase. For the study leading to the identification, the Nutrition Department provided diets low in histidine. This was a problem in itself in that histidine occurs in many foods of the normal diet. The diets provided were low in the essential nutrient protein and necessitated close consultation between dietitian and medical investigator. Fortunately, patients were kept on these diets only a short time so that nutrition inadequacy was not a major concern.

b. A simple but reliable test for the diagnosis of aldosteronism was developed at NIH. Normally, the hormone aldosterone in the system helps maintain blood volume and fluid balance by regulating the body excretion of sodium. Aldosteronism (excessive amounts of the hormone in the system) can be caused by many other diseases or conditions and heretofore has often eluded diagnosis. The Nutrition Department provided low sodium diets ordered for 17 patients participating in this study.

2. Stabilizing nutritional influences in patients through dietary controls so that research investigators can more readily detect influence under study.

a. Diets provided contained measured and unvarying amounts of protein, tyrosine, phenylalanine, and tryptophan so that investigators could observe the effects of thyroid hormones upon the absorption and metabolism of amino acids; measure plasma and urinary amino acids in early and advanced cancer patients, normal patients, and hyperthyroid patients; and study tyrosine transaminase activity in gut biopsy specimens.

b. To study the role of norepinephrine in the breakdown of fats to fatty acids and observe the effect of noradrenalin in the blood, medical investi-

gators ordered, for 6 normal patients, diets high in saturated fat for 6 weeks, high in unsaturated fat for 6 weeks, and as low as possible in fat for 6 weeks. The Nutrition Department took responsibility for controlling the patients' calorie intakes so that their body weight remained the same during the 18 weeks of the study.

c. Several studies currently in progress would be canceled should participating patients not eat the number of calories required to maintain their weight. It is the Nutrition Department's responsibility to assure that these very ill cancer patients, nauseated and uninterested in food, eat the necessary amounts of calories.

3. Contributing to actual development of methods of treatment of diseases.

Diets low in phenylalanine, needed for treatment of patients with phenylketonuria, were developed by the Nutrition Department through the use of lofenalac, a new protein product low in phenylalanine content. Many recipes were developed and tested to find a concentrate or flavoring which, when combined with the lofenalac, would overcome its unpleasant taste.

4. Reporting how information is collected and interpreting it on the basis of established nutritional standards.

The Nutrition Department maintains records and assists with summarizing research data from multiple sources on specific patients.

II. MAJOR PROBLEMS ENCOUNTERED

The fluctuating and unpredictable workload, influenced by nutritional aspects of research studies, continues as a problem because of budgetary and staffing restrictions. Examples of this are seen in the number of categories III and IV diet meals provided patients of each of the following institutes in consecutive months:

| | | | |
|---|---|---|---|
| NIAID: | 1,374 (May) | 3,717 (June) | 2,343 (increase) |
| NIAMD: | 2,925 (Aug) | 1,047 (Sept) | 1,878 (decrease) |

Increased patient ration cost. Factors influencing the continued rise in cost are: (1) the wage employee pay raises occurring annually; (2) rising raw food costs; and (3) in fiscal year 1962, only 58% utilization of metabolic kitchen facilities.

Patient Ration Costs

| Fiscal Year: | 1960 | 1961 | 1962 |
|---|---|---|---|
| Personnel : | $7.75 (81%) | $8.11 (81%) | $8.23 (80%) |
| Raw Food : | 1.58 | 1.63 | 1.65 |
| Sup. & Other: | .27 | .29 | .46* |
| Average cost per ration: | $9.60 | $10.03 | $10.34 |

*17¢ increase due largely to purchase of special supplies for NIAID virus study.

The personnel cafeteria operation showed a deficit of $34,542.00 at the end of fiscal year 1962. With the high salary scale and fringe benefits paid non-professional staff and the long hours of service necessary 7 days a week for hospital staff, it appears the operation will continue to show a deficit.

Personnel Administration: Turnover was higher in fiscal year 1962 than in the 4 previous years. In addition to this, Patient Dietetic Service experienced unusual difficulty in keeping nonprofessional supervisory positions covered because of the extremely high rate of sick leave for long-term illness. Sick leave for the entire department was higher than in previous years. Shortages of qualified applicants for non-professional (male) and clerical positions left vacancies open for long periods.

Continuing problems include crowded facilities (shortage of space for training, conferences, a test kitchen, storage, laboratory for food analysis); the need for constant maintenance of equipment and facilities; equipment repair or replacement needs of long-standing (defective deep freezes in the 12th floor metabolic kitchen, leaking dishwashing machine in the 11th floor kitchen, leaking ceiling in 3-B metabolic kitchen, inefficient hot food carts for the patient area).

## III. ACCOMPLISHMENTS, CHANGES, AND IMPROVEMENTS

During fiscal year 1962, the Nutrition Department provided 394,430 patient meals; recorded 28,650 daily food intakes (an average of 79 a day); 13,352 fluid intakes (37 a day average); and weighed food on 171,900 individual trays (471 daily average). 305 patients were given individual discharge or follow-up diet instructions and their complete nutrition histories were taken.

Twelve floor kitchens, a formula room, the main kitchen, and the 3-B (NCI) and 9th (NIAMD) metabolic kitchens were operated the full 12 months of the year. The 7th (NHI) metabolic kitchen was open less than 11 months; the 12th (NCI), slightly less than 10 months.

Three metabolic conferences were conducted in fiscal year 1962, to train 12 dietitians from 11 institutions in the organization and operation of metabolic kitchen units for new medical research units supported by NIH grants. Consultation and assistance were provided five other dietitians individually. A conference for five experienced dietitians was also held. Nine institutions were represented by the last two groups.

As projected in last year's report, the main kitchen was reorganized. On January 2, 1962, a kitchen manager, under direct supervision of the Chief, Food Production Service, assumed management and supervisory duties previously carried by professional staff. Seven other management positions, of descending responsibility, were established. Professional staff retained responsibility for writing menus, determining recipes, defining food items to be used, and approving prepared food products. The operation has proved most satisfactory.

The revised Diet Manual was submitted for printing in February 1962. The Manual of Diets and Procedures, Food Portion Manual, and employees' handbook, "You and Your Job" were revised.

To reduce noise, traffic, and congestion, alcoves outside the No. 5 elevators (used to transport food carts from main kitchen to floor kitchens) were enclosed on all floors.

The Nutrition Department food supervisors' training program was continued in 1962.

In cooperation with the Food and Drug Administration, the Nutrition Department prepared "market baskets" of food for a study of Strontium 90 in the typical 19-year-old male's diet.

## IV. HONORS AND AWARDS

The Chief, Nutrition Department was installed as President of the American Dietetic Association for the year 1962-1963 on October 18, 1962, and was presented the Alpha Chi Omega Award of Achievement to women who have done exceptional and outstanding work in their chosen fields, on June 29, 1962.

## V. PROPOSED FUTURE OBJECTIVES

The recommendations of Dr. Heinz F. Eichenwald, Professor of Pediatrics, New York Hospital, for changes in physical layout of the formula room, will be carried out.

Three conferences for training dietitians for metabolic kitchens to service research units supported by NIH grants will be held and a manual of instructions will be prepared for distribution to units outside of NIH.

The dishwashing unit of the 11th floor kitchen will be remodeled as a pilot study for remodeling dishwashing units of all floor kitchens.

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